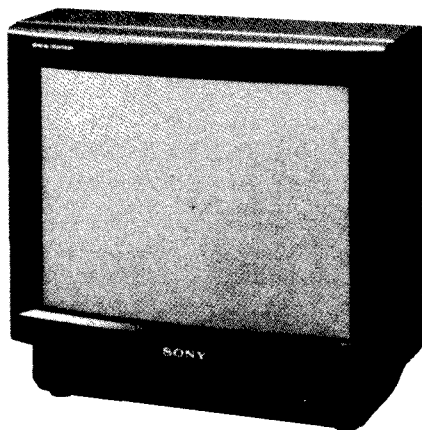


# KV-M2130D/M2131D

## RM-657

## SERVICE MANUAL



*AEP Model*

*KV-M2130D*

*Chassis No. SCC-B66F-A*

*KV-M2131D*

*Chassis No. SCC-B66J-A*

# BE-1 CHASSIS

**Note:** The service manual for RM-657 has been issued separately.

### MODELS OF THE SAME SERIES

KV-M2130D/M2131D

KV-M14D/P14D

KV-M19D/M19TD

KV-M2121D/2121E

### SPECIFICATIONS

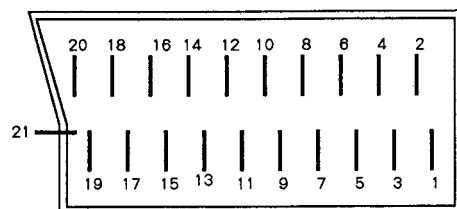
Television system	CCIR B, G and H
Color system	PAL/SECAM
Channel coverage	VHF E2-S20 UHF E21-E69
Picture tube	Trinitron Approx. 54.5cm (21 inches) Approx. 51cm (picture measured diagonally) 100 degree deflection
Input	21-pin connector, AV Connector
Outputs	Earphones jack : minijack 21-pin connector : CENELEC Standard
Sound output	5W (music)
Power consumption	99Wh
Dimensions	Approx. 518×480×478mm (w/h/d)
Weight	Approx. 23kg
Supplied accessories	RM-657 Remote Commander (1) IEC designation R6 batteries (2)

Design and specifications are subject to change without notice.



# TRINITRON® COLOR TV

# SONY®

**21-pin Euro Connector Configuration**


PIN	SIGNAL	SPECIFICATION
1	Audio output	0.5Vrms/1kilohm or less
2	Audio input	0.5Vrms/10kilohms or more
3	Audio output	0.5Vrms/1kilohm or less
4	Earth (audio)	
5	Earth (B-input)	
6	Audio input	0.5Vrms/10kilohms or more
7	B-input	0.7Vp-p/75ohms
8	Function switching	9.5V to 12V
9	Earth (G-input)	
10		
11	G-input	0.7Vp-p/75ohms
12		
13	Earth (R-input)	
14	Earth (blanking)	
15	R-input	0.7Vp-p/75ohms
16	Fast blanking	1V to 3V/75ohms
17	Earth (video)	
18	Earth (fast blanking)	
19	Video output	1Vp-p/75ohms
20	Video input	1Vp-p/75ohms
21	Screening plug	

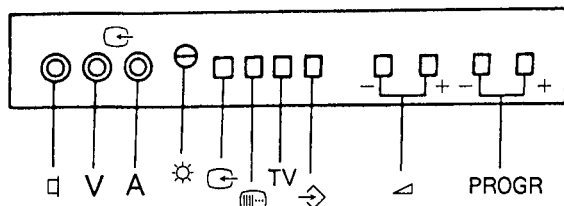
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## SECTION 1 GENERAL

**Note)** The layout, etc., will be slightly different from the operating instructions packed with the units.

### 1-1. FUNCTION OF CONTROLS



#### On the set

- ⊕ **On-screen display**  
Indicates program numbers and input mode; . Press the ⊕ button to make the display appear on the screen, and again to make it disappear. See also "On the Remote Commander" below.

#### Bar display

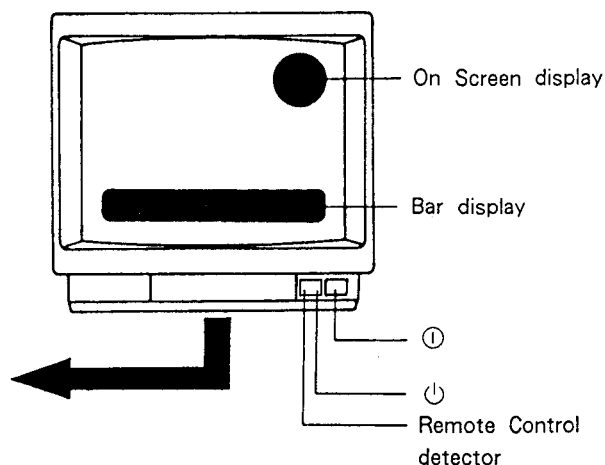
Indicates the level of the user controls when they are adjusted; volume, contrast or color.

- Ⓜ **power switch**  
To cut off the main electricity supply, press this switch. Ensure correct operation by pressing the switch fully.

#### Remote control detector

Point the Remote Commander towards this detector.

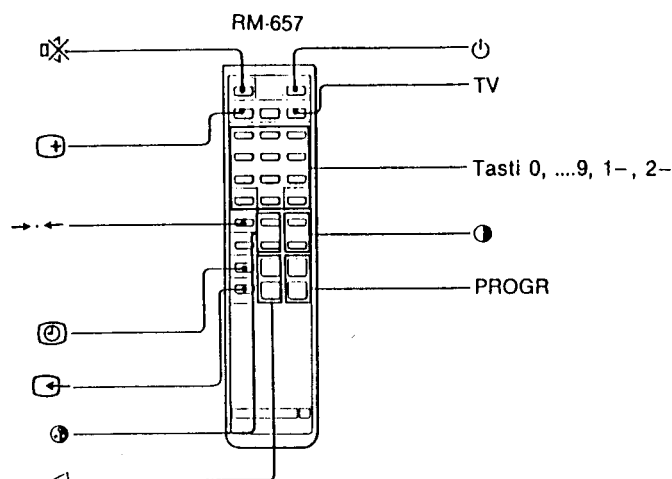
- Ⓜ **standby indicator**  
Lights up brightly when the set is in standby mode.



#### Inside the panel

- earphone jack (minijack mono)**
- preset button**
- analogue select buttons**  
Press repeatedly until the on-screen display of the required adjustment appears ( volume, contrast or color). Adjust by using the + or - buttons.
- input button**  
Press this button to view the input picture coming in through the 21-pin connector or the connectors on the front panel. "" appears on the screen. Press again or **PROGR** + - to return to the TV mode.  
  
Extra equipment can be connected to the TV using both the 21-pin connector and the input connectors, but only one piece of equipment besides the TV should be turned on at one time.
- brightness control**  
Turn clockwise for more brightness or anticlockwise for less.
- Volume adjustment buttons** + / -  
Use these buttons adjust the volume to the desired level.
- PROGR** + / - **buttons**  
Use to scan the available channels. To turn on the TV from standby mode without the remote commander, press any of these buttons.
- Video/Audio input connectors (phono)**  
Connect to a VTR, micro-computer, etc.
  - V (Yellow) video input
  - A (Black) audio input (mono)

## 1-2. ON THE REMOTE COMMANDER



To operate the Commander, point it toward the remote control detector.

### **Mute button**

Use to mute the sound. Press + or to restore the sound.

### **0, ..., 9, 1-, 2- buttons**

To select :  
program 15, press 1- and 5,  
program 25, press 2- and 5.

### **Reset button**

Press to return color and contrast to factory-set levels.

### **standby button**

Press to select standby mode. Use this facility to turn off the set for short periods of time.

To return to TV mode, press TV or the program number on the Remote Commander; there will be a slight delay before the picture is restored. If the main power is turned off when in standby mode, the indicator will take 2 to 6 seconds to go off.

### **On-screen display button**

Indicate the program number and the input mode. Press this button to make the display appear on the screen, and press the button again to make it disappear.

### **TV button**

Press to change to the TV mode from standby, input modes.

### **PROGR+/- buttons**

Use to scan the available channels.

### **+/- volume buttons**

### **color buttons**

### **contrast buttons**

### **input button**

Press to view the input picture from the connector or connectors. " " appears on the screen. Press PROGR +/- or a program number key to return to the TV mode.

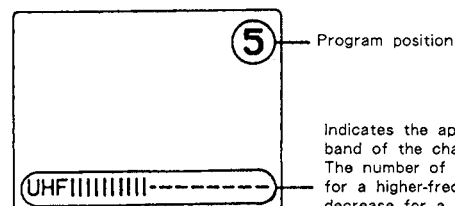
## 1-3. TO PRESET CHANNELS

Use the buttons inside the panel. To open the panel, push and pull the center.

### **Manual Programming**

#### **To Tune in a Channel in Any Desired Program Position**

- 1 Press (preset) to select the presetting mode.
- 2 Select the desired program position by using the PROGR + or - button.
- 3 Press + or - repeatedly until the TV program of the desired channel appears.  
Repeat steps 2 and 3 for all desired channels.
- 4 Press again to return to the TV mode.



Indicates the approximate location in the band of the channel being tuned in. The number of upright segments increase for a higher-frequency channel and decrease for a lower-frequency channel.



## 1-4. VIEWING TELETEXT

To view the teletext service, use the Remote Commander. RM-657 has teletext buttons indicated in green teletext operation are indicated in green.

### Operation

- 1 Select the TV channel for the desired teletext service.
- 2 Press (TEXT/MIX) to display the teletext service.  
Once has been pressed, the TV channel cannot be changed.
- 3 Key in the three digits for the desired page using the number buttons. If an error is made, complete the three digit sequence by keying in any digit. Then re-enter the correct page number. The requested teletext page is displayed.

To return to the TV mode, press TV on the Remote Commander.

The teletext service can be displayed directly from the standby mode, by pressing .

To receive the teletext service of a different TV channel.

- 1 Press TV to return to the TV mode.
- 2 Select the desired TV channel.
- 3 Press .

To display the index page.

Press (INDEX). If the necessary signal is not being broadcast, page 100 is displayed.

To access the next or preceding page

Press (PAGE+) or (PAGE-).

These buttons are indicated in white on the Commander.

To superimpose the teletext display on the TV picture.

Press twice from TV mode.

Press again to return to the TEXT display.

To suppress the teletext display so that the TV picture is displayed.

Press (TEXT CL). This button can be operated from both the TEXT and MIX displays.

To prevent a teletext page (subpage) from being updated / changed.

Press HOLD. The HOLD symbol " " appears at the top left of the screen.

To resume normal teletext reception, press .

To enlarge the teletext display.

Press . Press once to enlarge the upper half of the display ; press again to enlarge the lower half of the display ; press again to return to the normal display.

To reveal concealed information such as the answers to a quiz

Press (REVEAL)

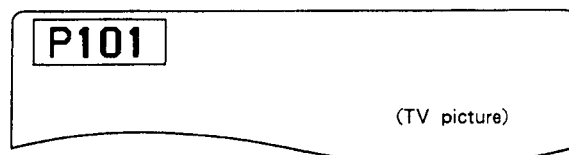
Press again to conceal the answers.

To adjust the contrast of the teletext display.

Press + or - button.

To watch the TV program while waiting for a requested page to be displayed.

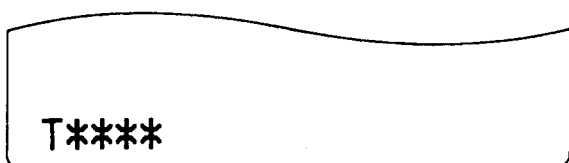
- 1 Request the new page.
- 2 Press to watch the TV program. The requested page number appears at the top left of the screen.  
When the requested page has been found, the page number is displayed on the top left hand corner of the screen.



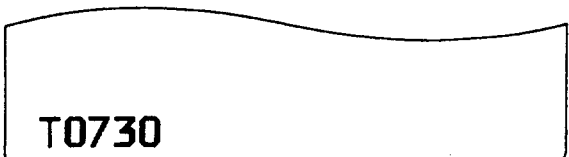
To view this page, press .

To have a requested page displayed at a pre-determined time.

- 1 Request a time coded page (e. g. alarm page).
- 2 Press (TP ON).  
"T\*\*\*\*" will appear at the bottom of the screen.



- 3 Enter your request time with the number buttons, using four digits. For example, 07 : 30.



To watch the TV program until the requested time, press . At the requested time, the page number will be displayed at the top of the screen.

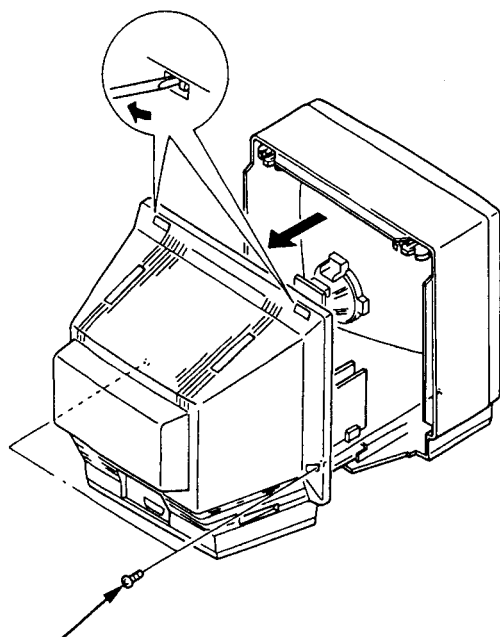
To view this page, press .

To cancel the request, first ensure that the teletext page is displayed, then press (TP OFF).

## SECTION 2

### DISASSEMBLY

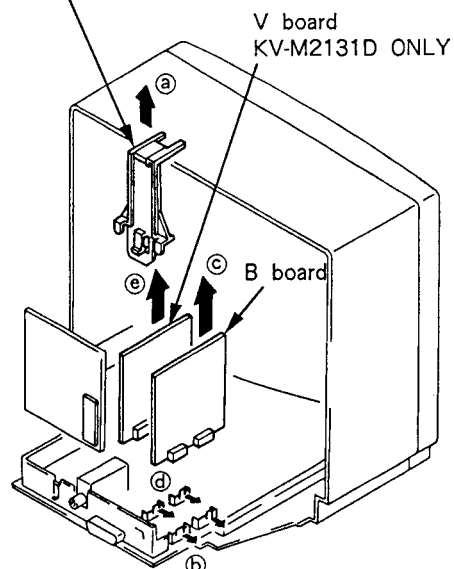
#### 2-1. REAR COVER REMOVAL



- ① Remove the two screws.
- ② On the top of the rear cover, use a screwdriver to push the tab (circled in the figure) in the direction of the arrow to release the cover holder.

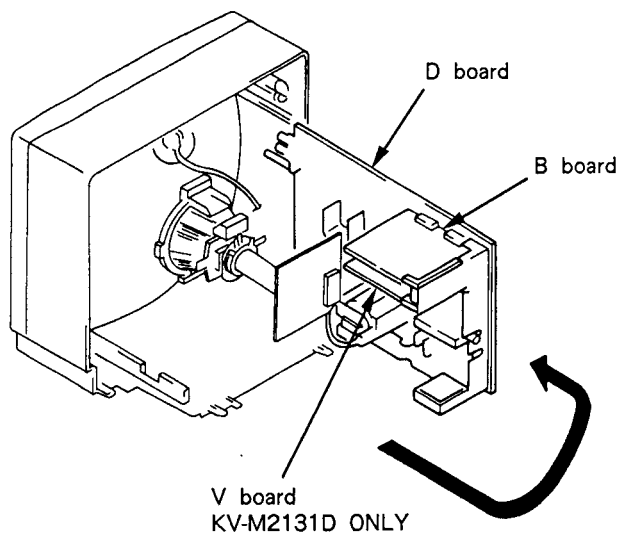
#### 2-2. B AND V BOARDS REMOVAL

- ① Remove the B bracket in the direction of arrow ㉑ while pull the bracket clip.

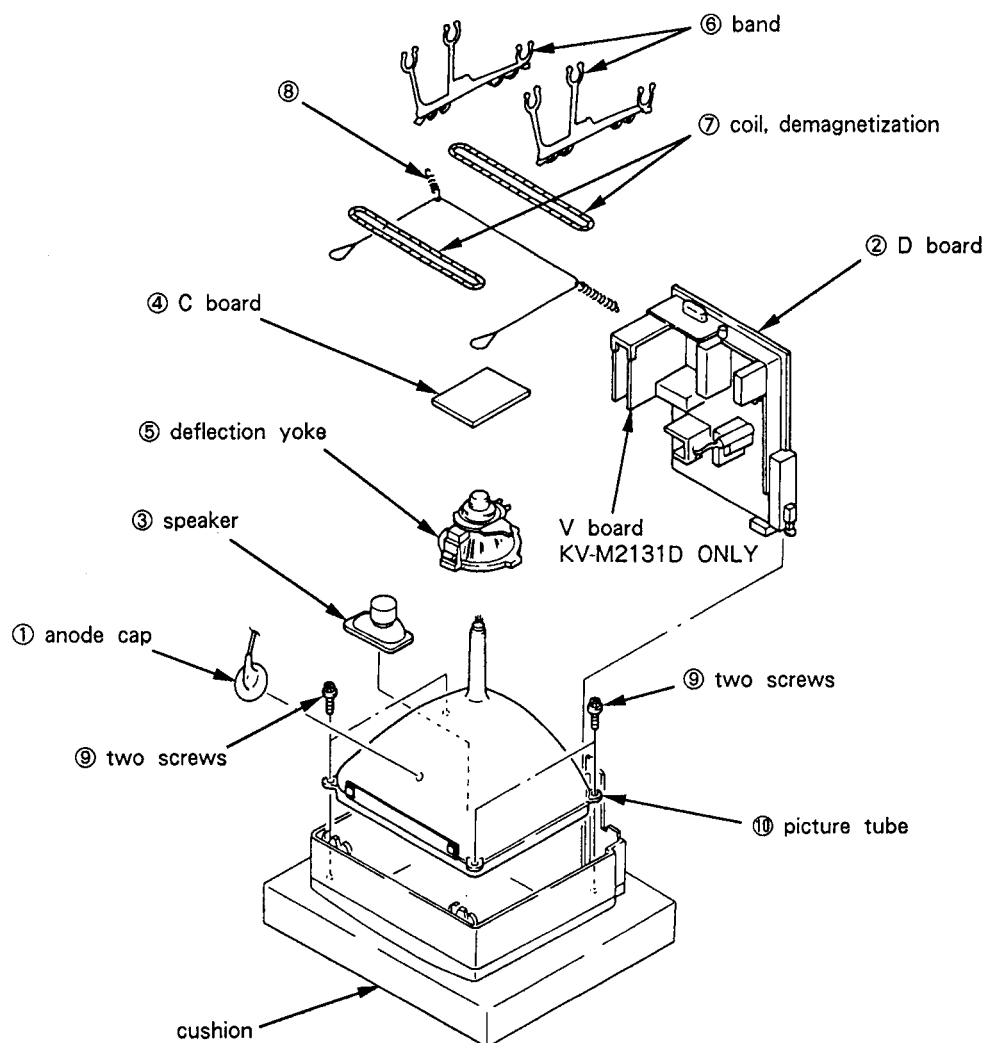


- ② Pull the two clips in the direction of arrow ㉒. Remove the B board in the direction of arrow ㉓.
- ③ Pull the two clips in the direction of arrow ㉔. Remove the V board in the direction of arrow ㉕. (KV-M2131D only)

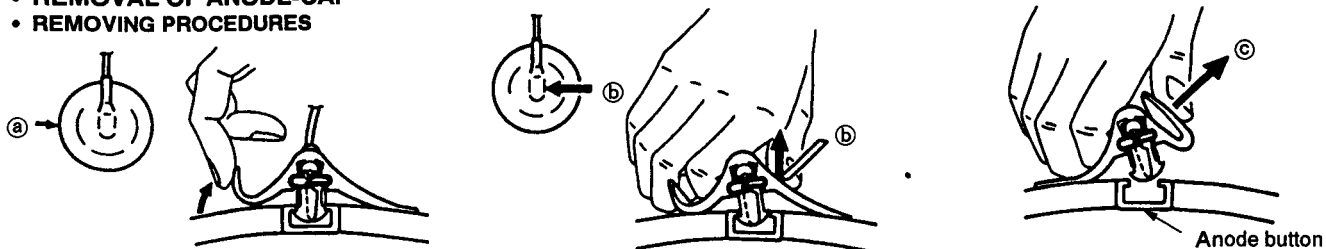
#### 2-3. SERVICE POSITION



## 2-4. PICTURE TUBE REMOVAL



### • REMOVAL OF ANODE-CAP • REMOVING PROCEDURES



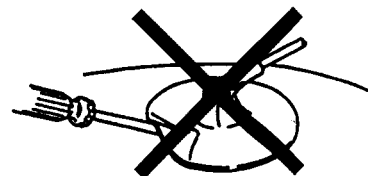
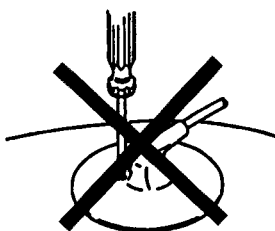
① Turn up one side of the rubber cap in the direction indicated by the arrow ③.

② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ②.

③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ③.

### • HOW TO HANDLE AN ANODE-CAP

- ① Don't hurt the surface of anode-caps with sharp shaped material!
- ② Don't press the rubber hardly not to hurt inside of anode-caps!  
A metal fitting called as shatter-hook terminal is built in the rubber.
- ③ Don't turn the foot of rubber over hardly!  
The shatter-hook terminal will stick out or hurt the rubber.



## SECTION 3

### SET-UP ADJUSTMENTS

- The following adjustments should be made when a complete realignment is required or a new picture tube is installed.
- These adjustments should be performed with rated power supply voltage unless otherwise noted.

The control and switch below should be set as follows unless otherwise noted :

- CONTRAST control ..... 80% (or Normal by Commander)
- ⊗ BRIGHTNESS control ..... 50%

Perform the adjustments in order as follows :

1. Beam Landing
2. Convergence
3. Focus
4. White Balance

**Note :** Test Equipment Required.

1. Color Bar/Pattern Generator
2. Degausser
3. DC Power Supply
4. Digital multimeter
5. Oscilloscope

#### Preparation

- Set the side of the unit with the PICTURE TUBE so that it faces east or west in order to reduce the influence of external magnetic force.
- Turn the power switch for the unit ON and erase the magnetic force using a degausser.

#### 3-1. BEAM LANDING

1. Input a raster signal with the pattern generator.  

CONTRAST

BRIGHTNESS

}

normal
2. Turn the raster signal of the pattern generator to red.
3. Move the deflection yoke backward, and adjust with the purity control so that red is in the center and blue and green are at the sides, evenly.  
(Fig. 3-1 - 3-3)
4. Move the deflection yoke forward, and adjust so that the entire screen becomes red. (Fig. 3-1)
5. Switch over the raster signal to blue and green and confirm the condition.
6. When the position of the deflection yoke is determined, tighten it with a deflection yoke mounting screw.
7. When landing at the corners is not right, adjust by using the magnet. (Fig. 3-4)

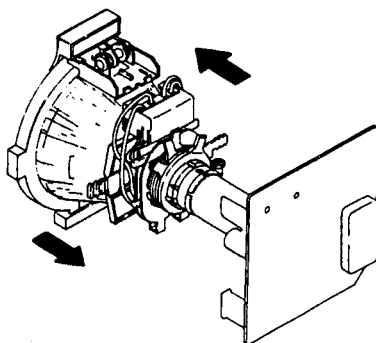


Fig. 3-1

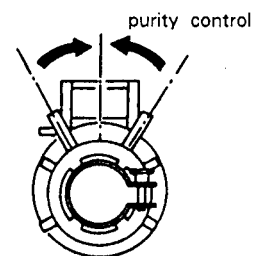


Fig. 3-2

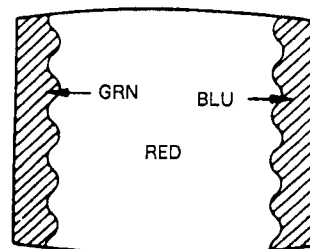


Fig. 3-3

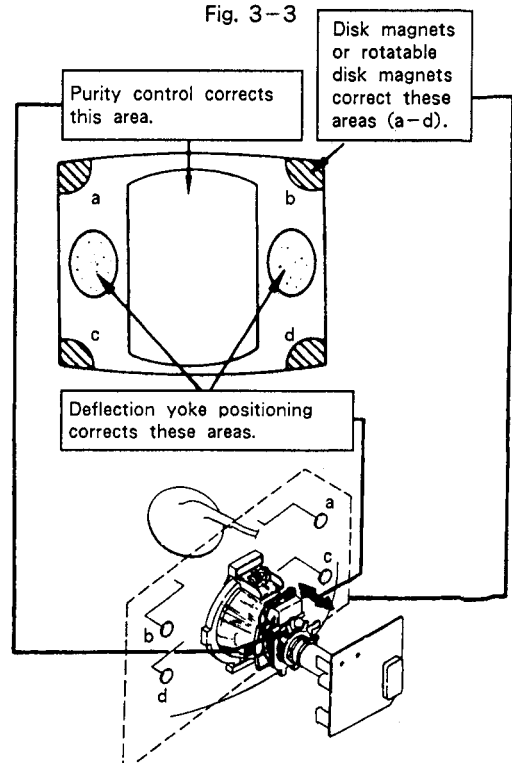


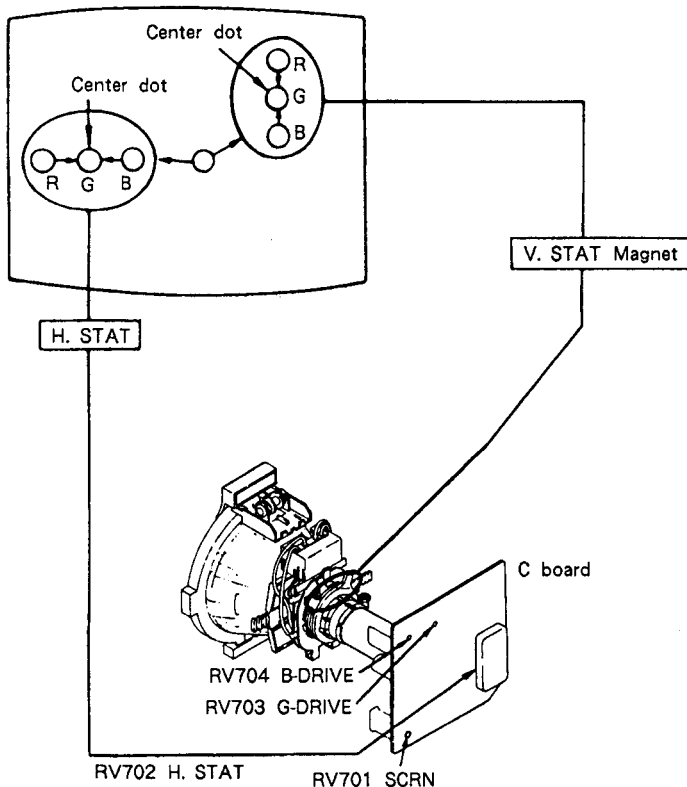
Fig. 3-4

### 3-2. CONVERGENCE

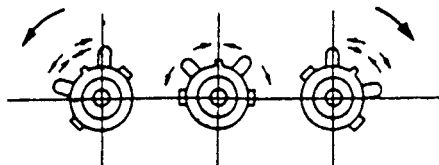
#### Preparation :

- Before starting, perform FOCUS, H. SIZE and V. SIZE adjustments.
- Set BRIGHTNESS control to minimum.
- Feed in the dot pattern.

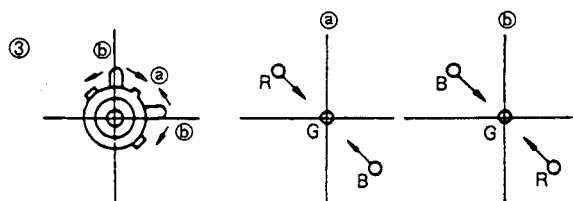
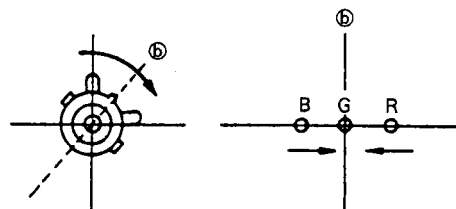
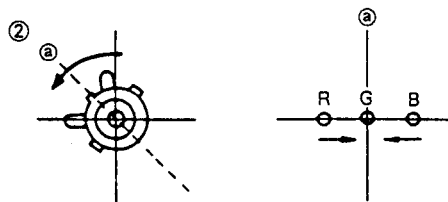
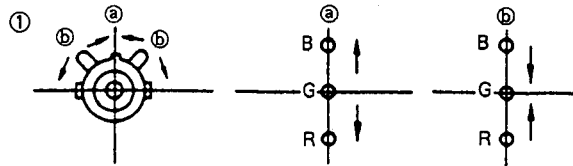
#### (1) Horizontal and Vertical Static Convergence



1. Adjust H. STAT VR to coincide red, green and blue dots on the center of screen.(Horizontal movement)
  2. Adjust V. STAT magnet to coincide red, green and blue dots on the center of screen.(Vertical movement)
  3. If the red, green and blue dots do not coincide on the center of screen with H. STAT VR, perform horizontal convergence adjustment using H. STAT VR and V. STAT magnet as shown below. (In this case, H. STAT VR and V. STAT magnet effect each other.)
- Tilt the V. STAT magnet and adjust static convergence to open or close the V. STAT magnet.



4. When the V. STAT magnet is moved in the direction of arrow (a) and (b), red, green and blue dots move as shown below.

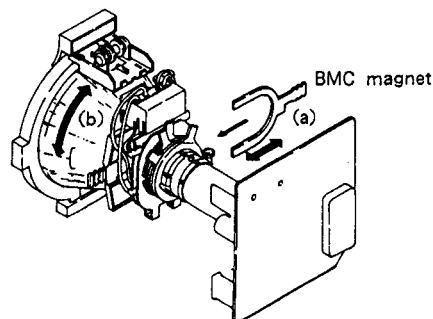


If the red and blue dots do not coincide with green dot, perform following steps.

Move BMC magnet (a) to correct insufficient H. static convergence.

Rotate BMC magnet (b) to correct insufficient V. static convergence.

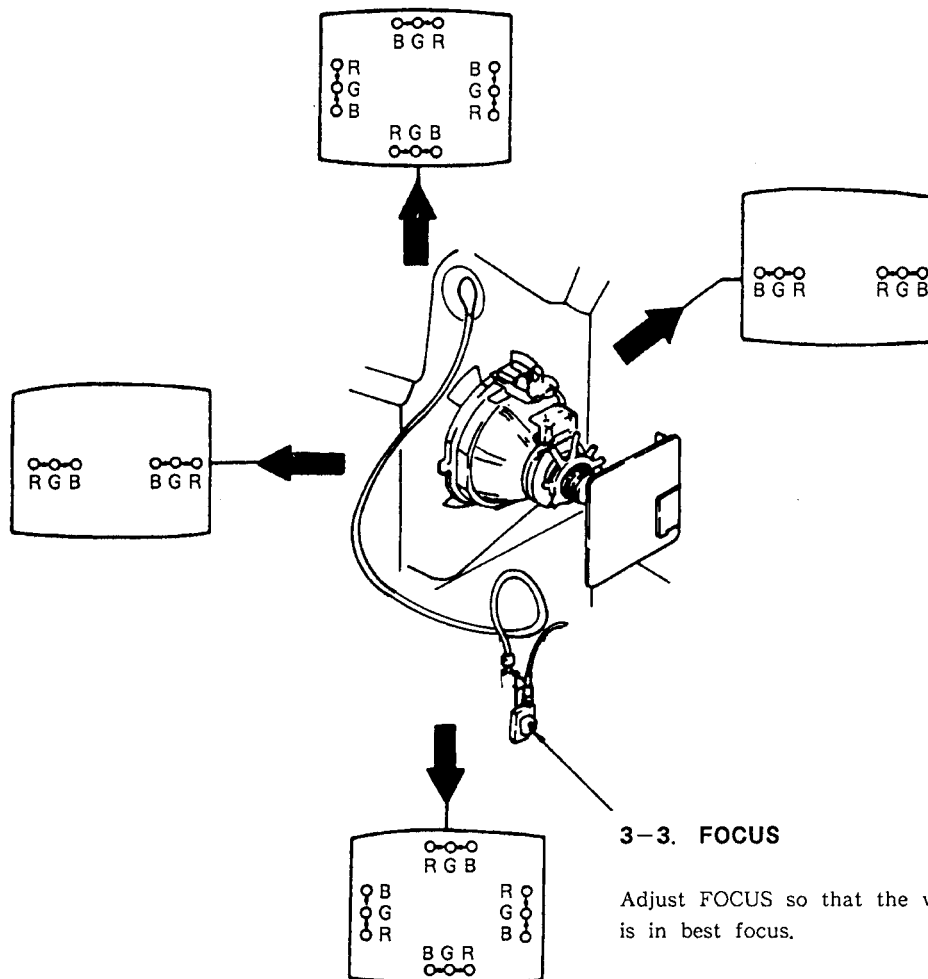
In either case, repeat Beam Landing Adjustment.



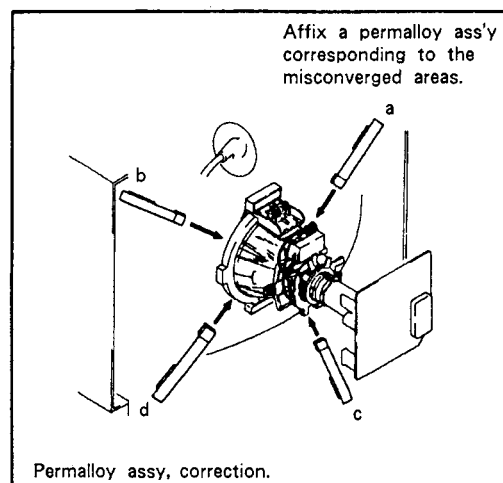
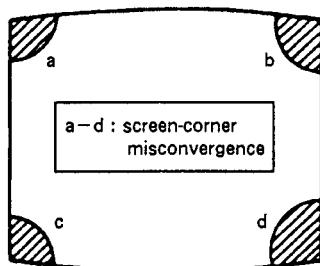
## (2) Dynamic Convergence Adjustment

### Preparation :

- Before starting, perform Horizontal and Vertical Static Convergence Adjustment.
- 1. Slightly loosen deflection yoke screw.
- 2. Remove deflection yoke spacers.
- 3. Move the deflection yoke for best convergence as shown below.
- 4. Tighten the deflection yoke screw.
- 5. Install the deflection yoke spacers.



## (3) Screen-corner Convergence



### 3-4. WHITE BALANCE

{Screen (G2) Setting}

1. Input dot signals from the pattern generator.
2. Set the picture BRIGHTNESS control to the minimum level.
3. Apply 140 V DC to the cathodes of R, G, and B from an external power source.
4. While watching the picture, adjust the G2 volume (RV701) immediately before the fly-back line disappears.

{White Balance Adjustment}

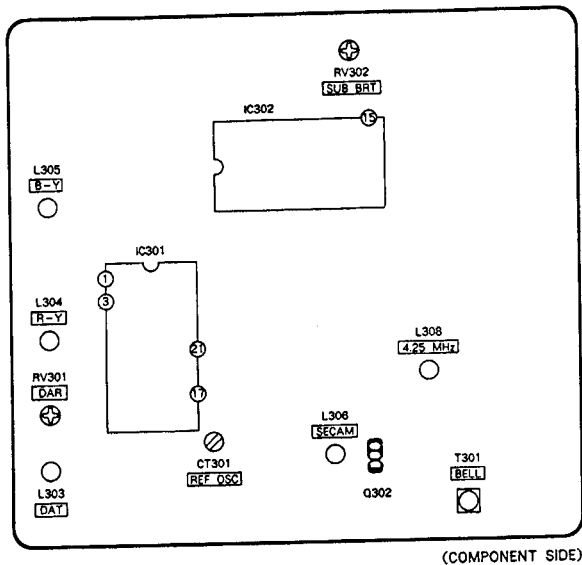
1. Input all-white signals from the pattern generator.
2. Adjust the BRIGHTNESS and COLOR controls to the standard level.
3. Adjust the white balance using RV704 (B DRIVE) and RV703 (G DRIVE).

In the following adjustments, the CONTRAST COLOR and BRIGHTNESS controls are set to normal unless otherwise specified.

## SECTION 4

### CIRCUIT ADJUSTMENTS

#### 4-1. B BOARD ADJUSTMENTS

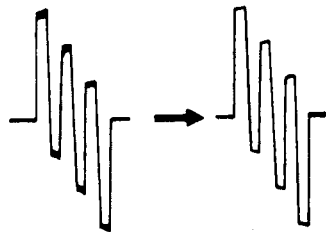


##### REF OSC Adjustment (CT301)

1. Input a PAL COLOR BAR pattern.
2. Short circuit between pin ⑰ of IC301 and ground.
3. Adjust CT301 to obtain color synchronization.
4. Remove the jumper wire from IC301.

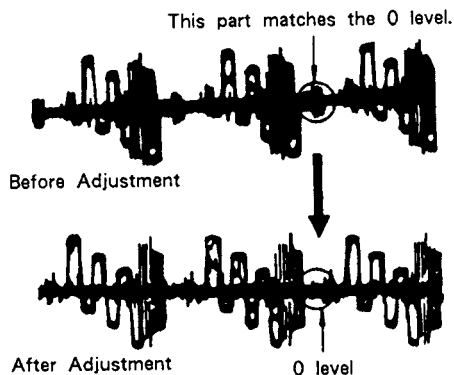
##### 1H DELAY LINE Adjustment (L303 DAT, RV301 DAR)

1. Input a PAL COLOR BAR pattern.
2. Connect the oscilloscope to pin ③ (B-Y) of IC301 and observe the waveform of the H block on the oscilloscope.
3. Adjust L303 to minimize the double waveform outline.



Before Adjustment      After Adjustment

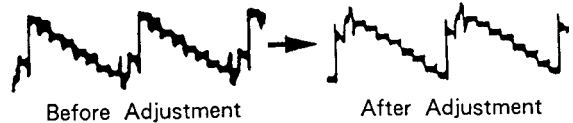
4. Input a PAL TEST COLOR BAR pattern.
5. Rotate the RV301 VR and adjust till the ANT PAL part of the waveform matches the 0 level.



6. L303 and RV301 affect each other, so repeat till the conditions of both are met.

##### Y TRAP 4.25 MHz Adjustment (L308)

1. Input a SECAM COLOR BAR pattern.
2. Connect pin ⑮ of IC302 to the oscilloscope and adjust L308 so that the waveform level becomes minimum.

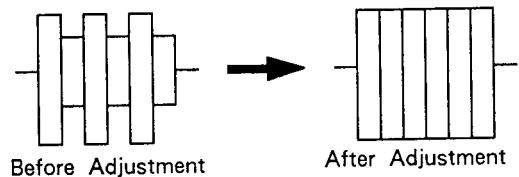


##### SECAM ID Adjustment (L306)

1. Input a SECAM COLOR BAR pattern.
2. Connect a Digital Multimeter at pin ② of IC301.
3. Adjust L306 so that the indicator goes up to the maximum.

##### BELL FILTER Adjustment (T301)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to the Q302 emitter.
3. Adjust T301 so that the waveform becomes flat.

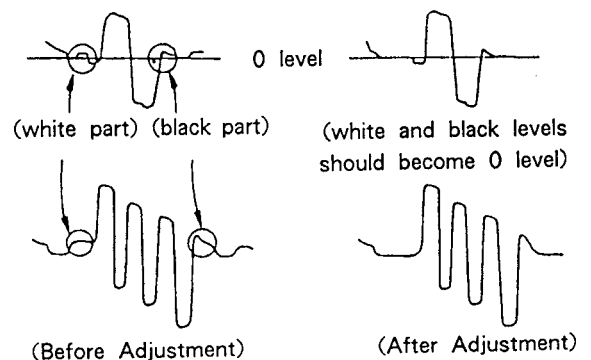


Before Adjustment

After Adjustment

##### SECAM DISCRI Adjustment (L304 R-Y, L305 B-Y)

1. Input a SECAM COLOR BAR pattern.
2. Connect an oscilloscope to pin ① of IC301.
3. Adjust L304 (R-Y) so that white and black parts of the waveform of pin ① becomes 0 level.
4. Connect an oscilloscope to pin ③ of IC301.
5. Adjust L305 (B-Y) so that white and black parts of the waveform of pin ③ becomes 0 level.



(Before Adjustment)

(After Adjustment)

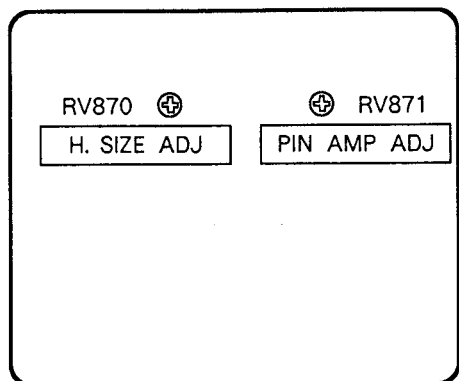


### SUB BRT Adjustment (RV302)

1. Input a PAL COLOR BAR signal.
2. Set CONTRAST and COLOR volume to a minimum, and set the BRIGHTNESS volume control to the mechanical center.
3. Slowly rotate SUB BRT (RV302) until the red portion is faintly illuminated.

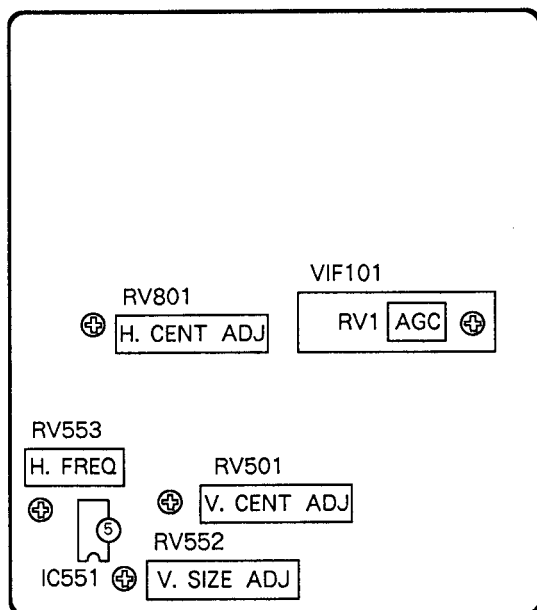
## 4-2. D AND D1 BOARDS ADJUSTMENTS

### D1 BOARD



(COMPONENT SIDE)

### D BOARD



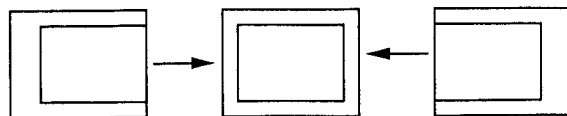
(COMPONENT SIDE)

### TU AGC (RF AGC)

1. Tune in air signals.
2. Adjust AGC VR (RF AGC) so that snow-noise and cross-modulation just disappear from the picture.

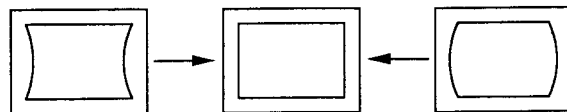
### D BOARD

#### RV801 H.CENT (HORIZONTAL CENTER)



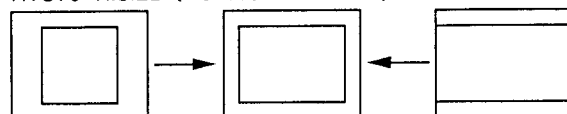
### D1 BOARD

#### RV871 PIN. AMP



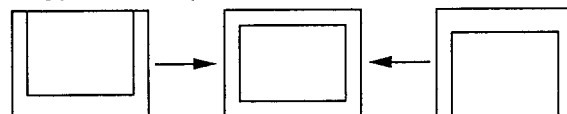
### D1 BOARD

#### RV870 H.SIZE (HORIZONTAL SIZE)



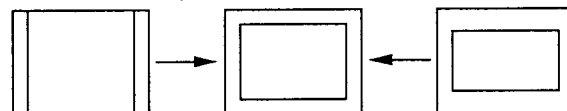
### D BOARD

#### RV501 V.CENT (VERTICAL CENTER)



### D BOARD

#### RV552 V.SIZE (VERTICAL SIZE)



### H. FREQ (RV553)

1. Input a PAL COLOR BAR signal, then connect an electrolytic capacitor (100  $\mu$ /16V) between Pin ⑤ and GND of IC551.
2. Adjust RV553 (H. FREQ) to stop scrolling of the picture in the horizontal direction.
3. After adjustment, remove the electrolytic capacitor.



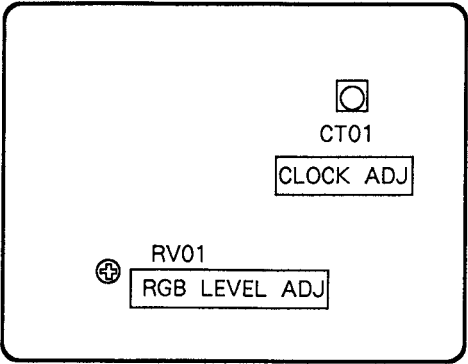
fo : too low

fo : suitable

fo : too high

fo : 15.625  $\pm$  50Hz

4-3. V BOARD ADJUSTMENTS  
(KV-M2131D ONLY)



(COMPONENT SIDE)

Clock Adjustment (CT01)

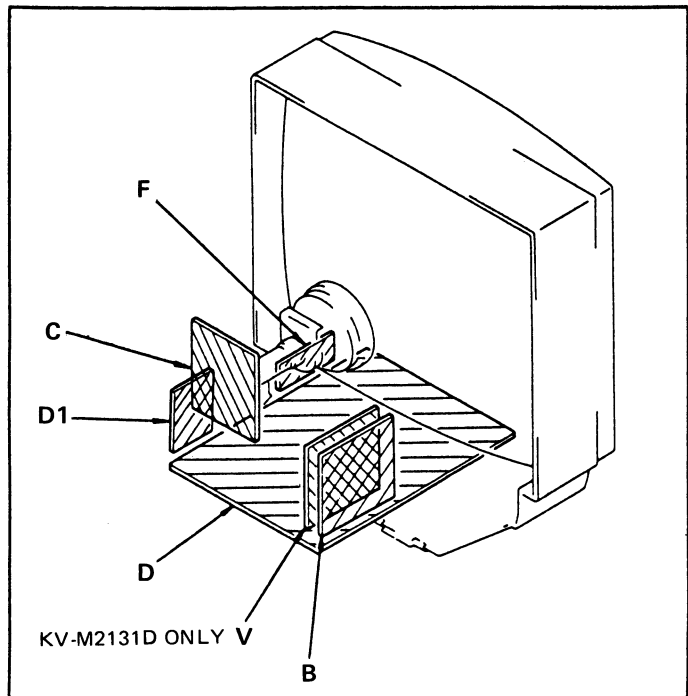
- 1. Raise pin ③ of CNV01.
- 2. Set up the TELE TEXT mode.
- 3. Adjust CT01 to stop the pictures from scrolling.

RGB Level Adjustment (RV01)

- 1. Set PICTURE to maximum.
- 2. Adjust RV01 till the RGB output becomes maximum.

# SECTION 5 DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION



5-2. SCHEMATIC DIAGRAMS

## Note:

- All capacitors are in  $\mu\text{F}$  unless otherwise noted. pF:  $\mu\text{pF}$
- 50 WV or less are not indicated except for electrolytics.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

Pitch: 5 mm  
Rating electrical power  $\frac{1}{4}$  W

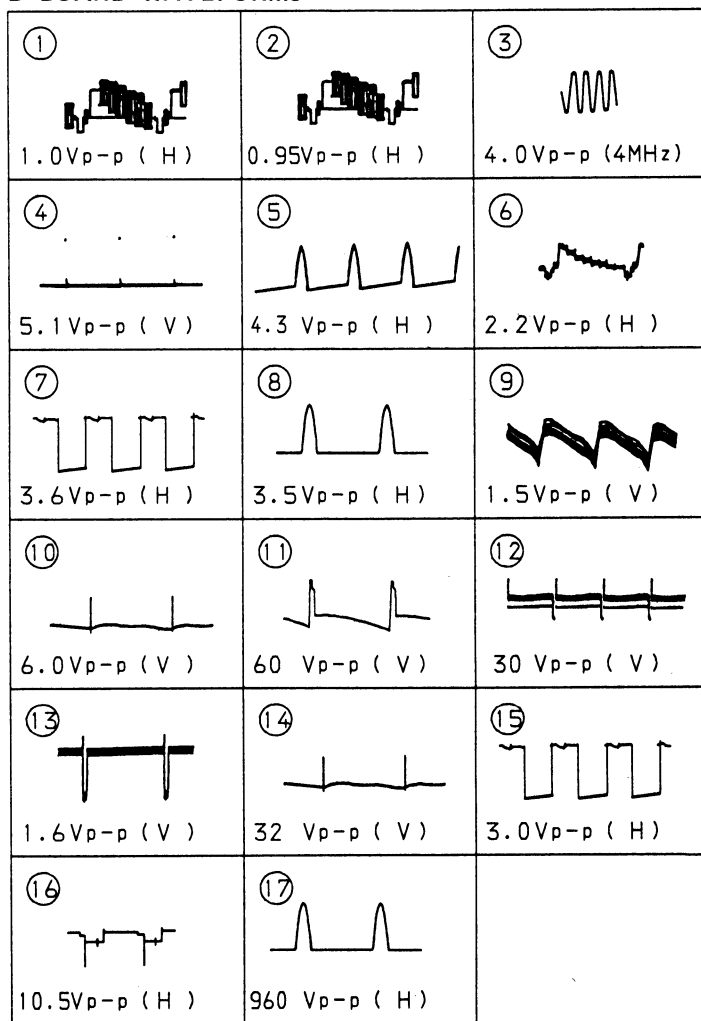
- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10 M $\Omega$  digital multimeter.
- Readings are taken with a PAL color-bar signal input.
- Voltage variations may be noted due to normal production tolerance.
- : B + bus.
- : B - bus.
- : signal path.

## Reference information

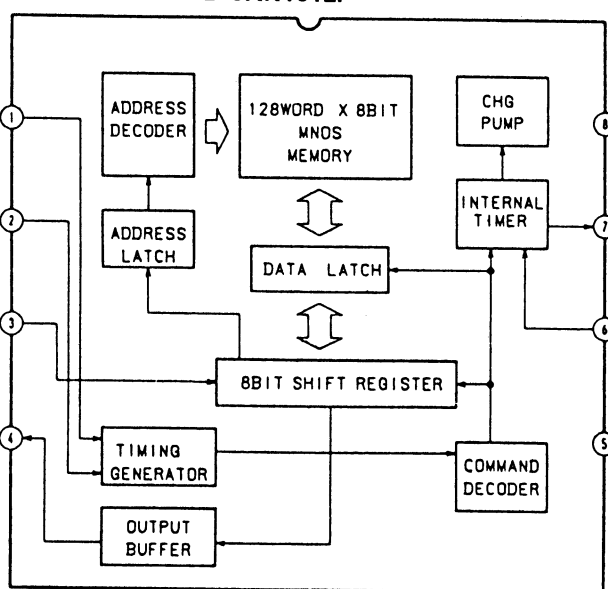
RESISTOR	: RN	METAL FILM
	: RC	SOLID
	: FPRD	NONFLAMMABLE CARBON
	: FUSE	NONFLAMMABLE FUSIBLE
	: RW	NONFLAMMABLE WIREWOUND
	: RS	NONFLAMMABLE METAL OXIDE
COIL	: RB	NONFLAMMABLE CEMENT
	: LF-8L	MICRO INDUCTOR
CAPACITOR	: TA	TANTALUM
	: PS	STYROL
	: PP	POLYPROPYLENE
	: PT	MYLAR
	: MPS	METALIZED POLYESTER
	: MPP	METALIZED POLYPROPYLENE
	: ALB	BIPOLAR
	: ALT	HIGH TEMPERATURE
	: ALR	HIGH RIPPLE

Note: The components identified by shading and mark are critical for safety. Replace only with part number specified.

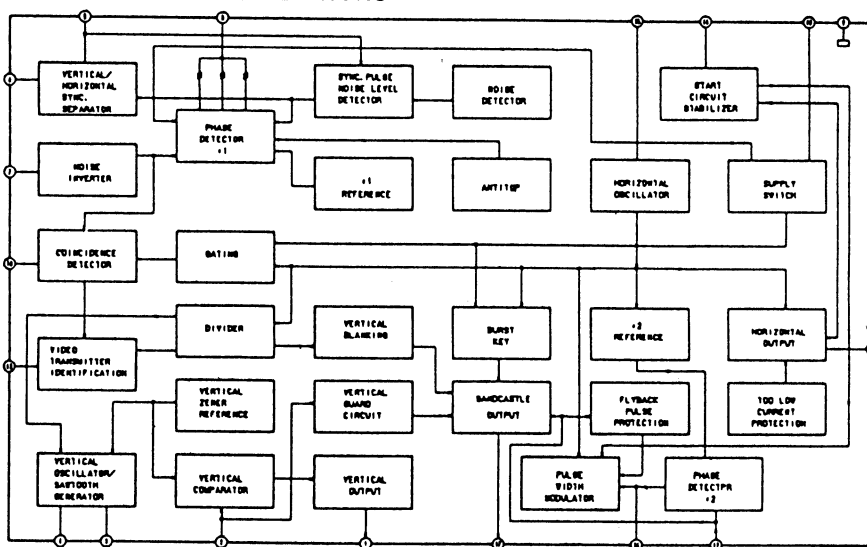
D BOARD WAVEFORMS



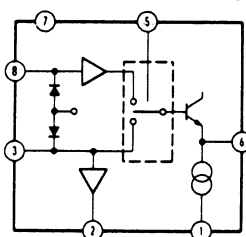
D BOARD IC002 CXK1012P

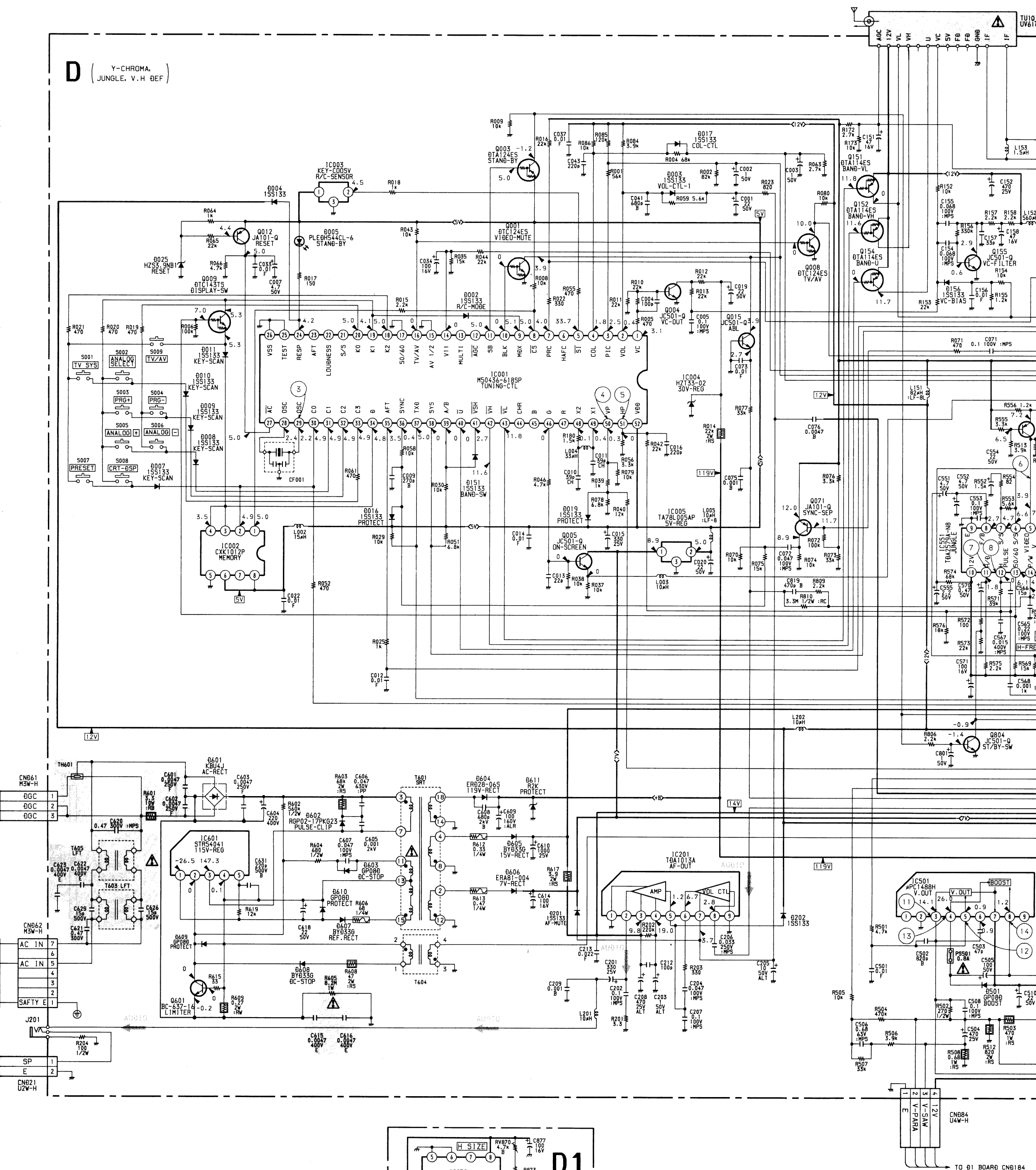


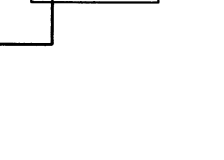
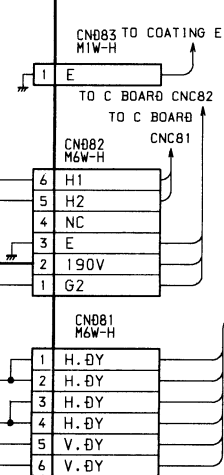
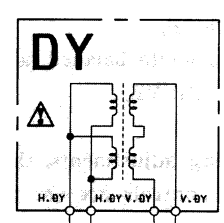
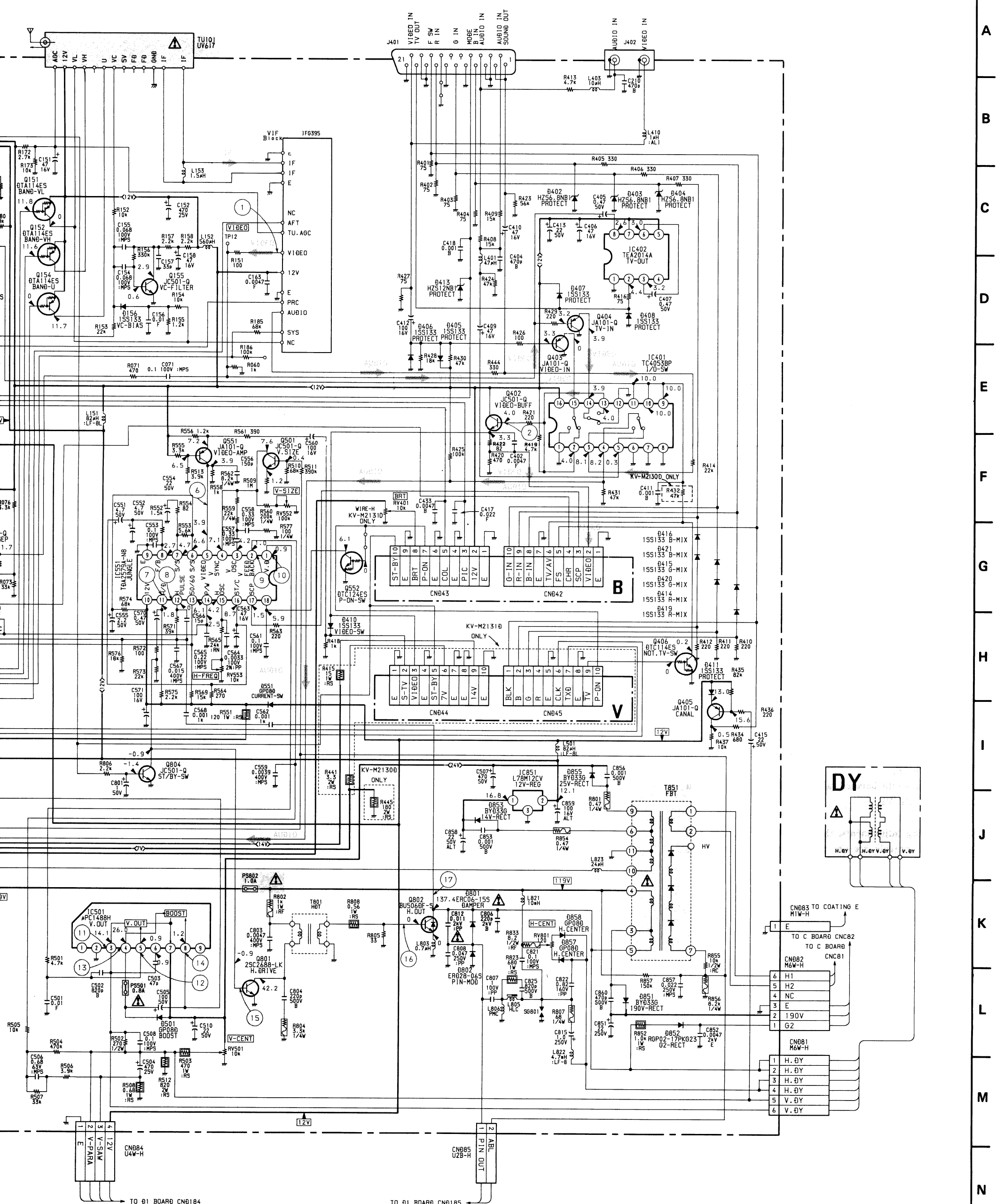
D BOARD IC551 TDA2579A-N8



D BOARD IC402 TEA2014A







—23—

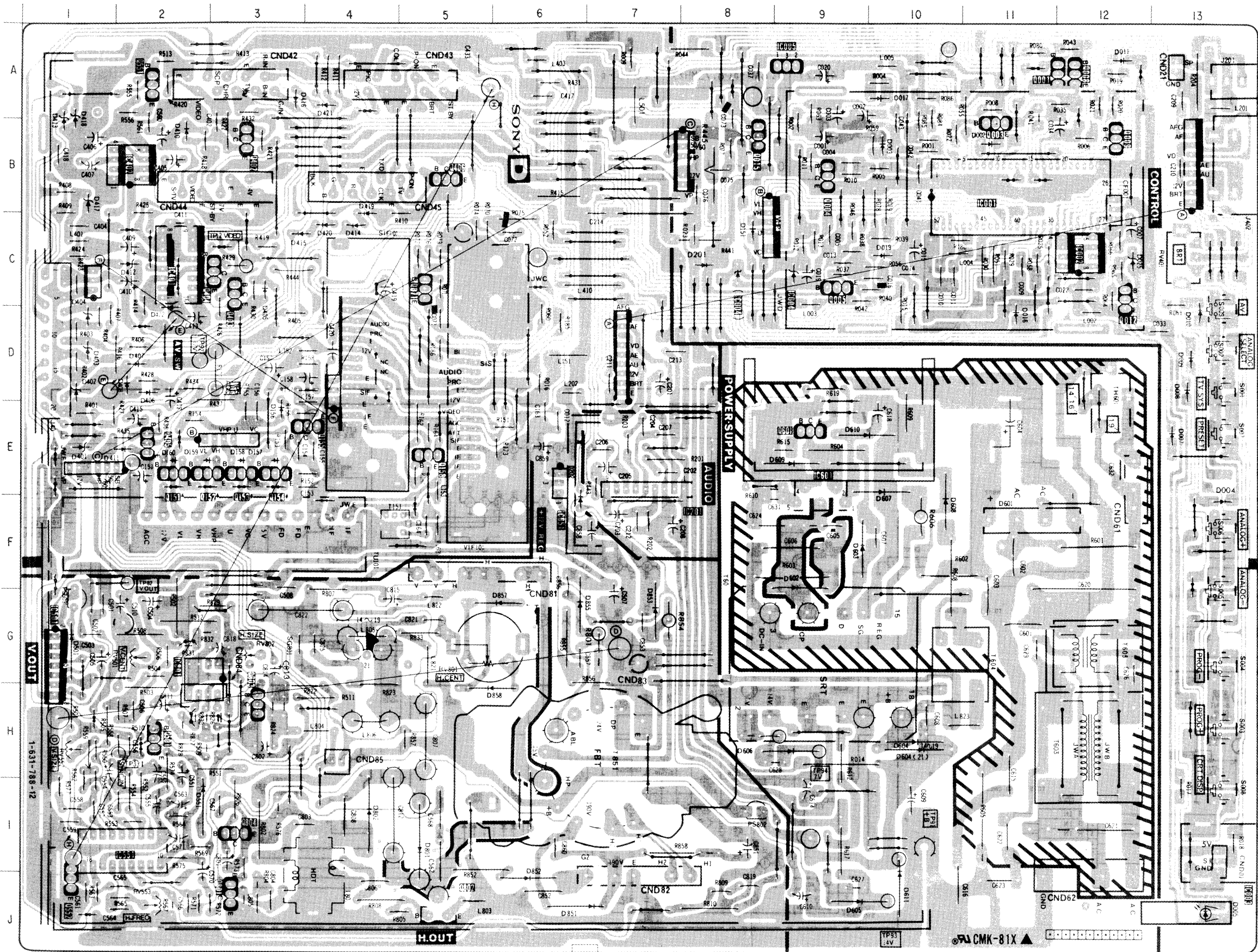
-24-



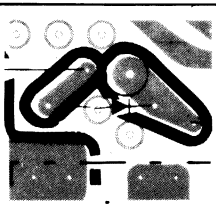
5.3. PRINTED WIRING BOARDS

- D Board -

**D** Y-CHROMA  
JUNGLE, V.H DEF



IC		D017	A - 10
IC001	B - 11	D019	C - 10
IC002	C - 11	D025	C - 12
IC003	I - 13	D151	C - 8
IC004	C - 9	D156	E - 3
IC005	A - 9	D201	C - 8
IC201	E - 7	D402	D - 1
IC401	C - 2	D403	D - 1
IC402	B - 2	D405	C - 3
IC406	B - 5	D406	D - 2
IC501	G - 1	D407	D - 2
IC551	I - 1	D408	D - 2
IC601	E - 9	D410	B - 2
IC801	G - 2	D412	C - 2
IC851	F - 6	D413	B - 1
TRANSISTOR		D414	C - 4
Q001	A - 11	D415	C - 3
Q003	B - 11	D416	A - 3
Q004	B - 9	D420	C - 4
Q005	C - 9	D421	A - 4
Q008	A - 12	D501	G - 1
Q009	B - 12	D551	I - 2
Q012	C - 12	D602	F - 9
Q015	B - 8	D603	F - 9
Q071	C - 5	D604	H - 10
Q151	E - 2	D605	J - 10
Q152	E - 2	D606	H - 9
Q154	E - 3	D607	E - 10
Q155	E - 5	D608	F - 10
Q158	F - 5	D609	E - 9
Q402	B - 2	D610	E - 9
Q403	C - 3	D611	I - 10
Q404	C - 3	D801	I - 5
Q405	E - 2	D802	I - 4
Q406	B - 5	D851	J - 7
Q501	H - 2	D852	J - 6
Q551	A - 2	D853	G - 7
Q552	J - 1	D855	G - 6
Q601	E - 9	D857	F - 6
Q801	J - 3	D858	G - 6
Q802	J - 5	VARIABLE RESISTOR	
Q803	H - 3	RV401	C - 13
Q804	I - 3	RV501	G - 2
DIODE		RV552	H - 1
D002	B - 11	RV553	J - 2
D003	B - 10	RV562	I - 1
D004	F - 13	RV801	G - 5
D005	J - 13		
D007	E - 13		
D008	D - 13		
D009	D - 13		
D010	D - 13		
D011	A - 12		
D016	D - 11		



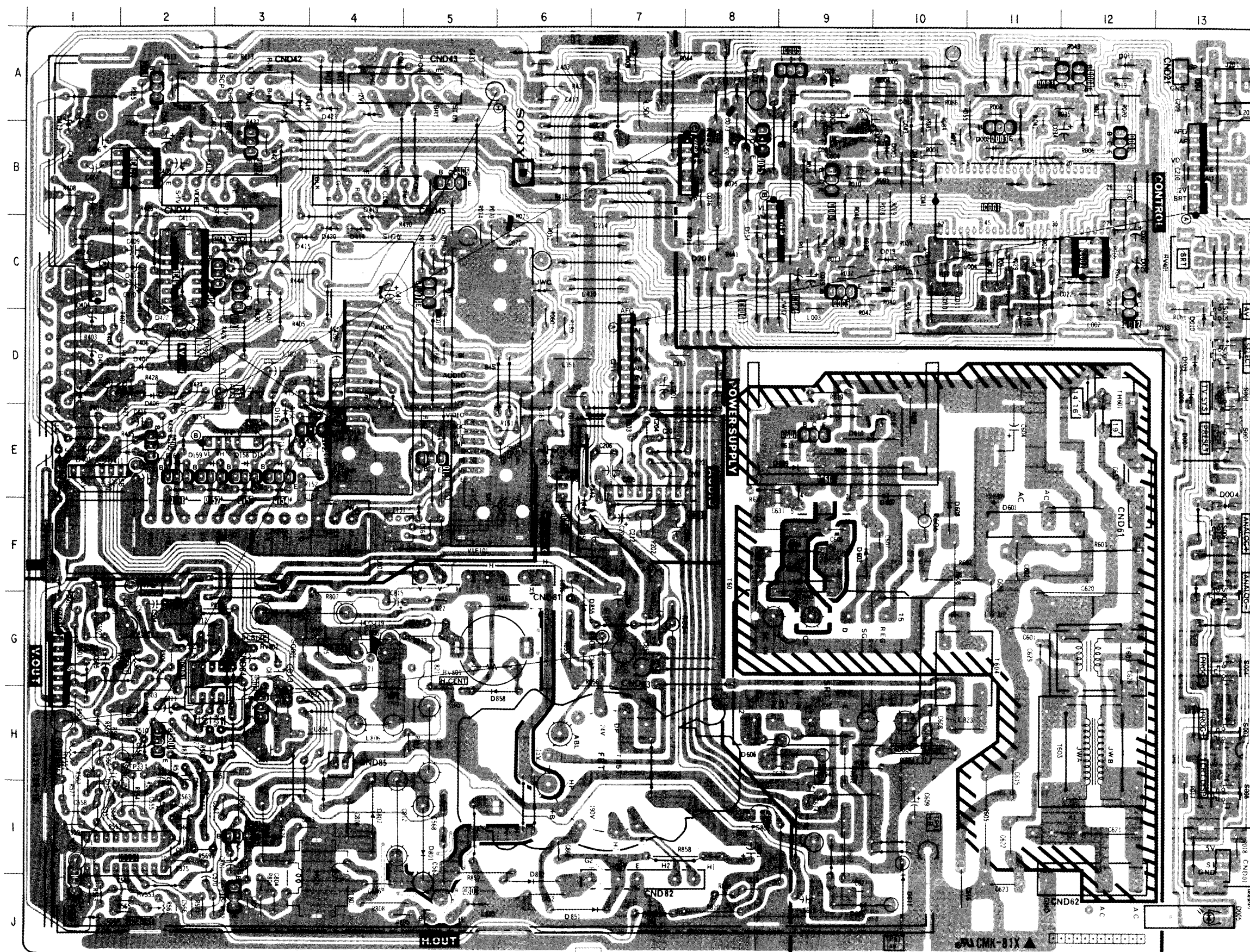
**NOTE:**  
The circuit indicated as left contain  
600 Vp-p. Care must be paid to prevent  
inspection or repairing.



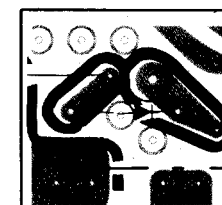
## 5.3. PRINTED WIRING BOARDS

- D Board -

**D** Y-CHROMA  
JUNGLE, V.H DEF

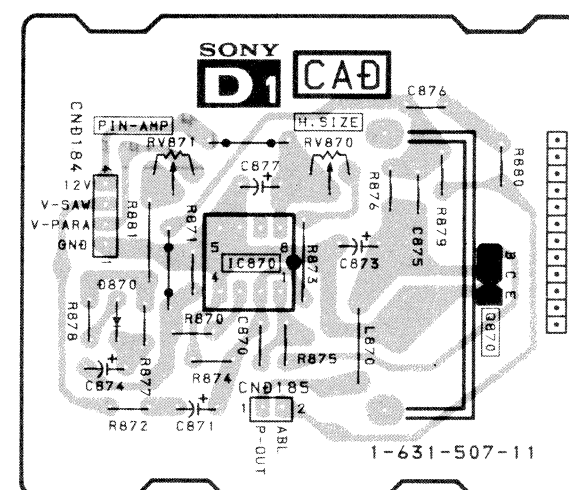


IC		D017	A - 10
IC001	B - 11	D019	C - 10
IC002	C - 11	D025	C - 12
IC003	I - 13	D151	C - 8
IC004	C - 9	D156	E - 3
IC005	A - 9	D201	C - 8
IC201	E - 7	D402	D - 1
IC401	C - 2	D403	D - 1
IC402	B - 2	D405	C - 3
IC406	B - 5	D406	D - 2
IC501	G - 1	D407	D - 2
IC551	I - 1	D408	D - 2
IC801	E - 9	D410	B - 2
IC851	G - 2	D412	C - 2
	F - 6	D413	B - 1
		D414	C - 4
		D415	C - 3
		D416	A - 3
		D420	C - 4
		D421	A - 4
TRANSISTOR			
Q001	A - 11	D501	G - 1
Q003	B - 11	D551	I - 2
Q004	B - 9	D602	F - 9
Q005	C - 9	D603	F - 9
Q008	A - 12	D604	H - 10
Q009	B - 12	D605	J - 10
Q012	C - 12	D606	H - 9
Q015	B - 8	D607	E - 10
Q071	C - 5	D608	F - 10
Q151	E - 2	D609	E - 9
Q152	E - 2	D610	E - 9
Q154	E - 3	D611	I - 10
Q155	E - 5	D801	I - 5
Q158	F - 5	D802	I - 4
Q402	B - 2	D851	J - 7
Q403	C - 3	D852	J - 6
Q404	C - 3	D853	G - 7
Q405	E - 2	D855	G - 6
Q406	B - 5	D857	F - 6
Q501	H - 2	D858	G - 6
Q551	A - 2	VARIABLE RESISTOR	
Q552	J - 1	RV401	C - 13
Q601	E - 9	RV501	G - 2
Q801	J - 3	RV552	H - 1
Q802	J - 5	RV553	J - 2
Q803	H - 3	RV562	I - 1
Q804	I - 3	RV801	G - 5
DIODE			
D002	B - 11		
D003	B - 10		
D004	F - 13		
D005	J - 13		
D007	E - 13		
D008	D - 13		
D009	D - 13		
D010	D - 13		
D011	A - 12		
D016	D - 11		

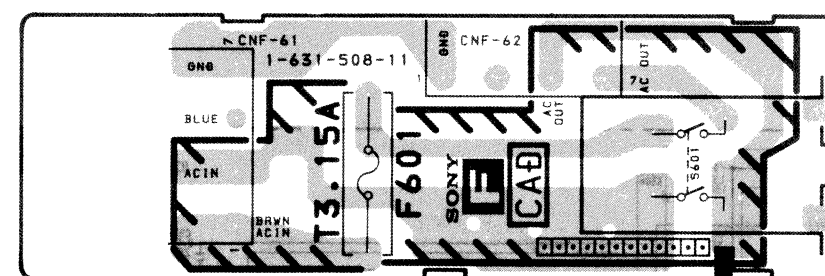
**NOTE:**

The circuit indicated as left contains 600 Vp-p. Care must be paid to prevent inspection or repairing.





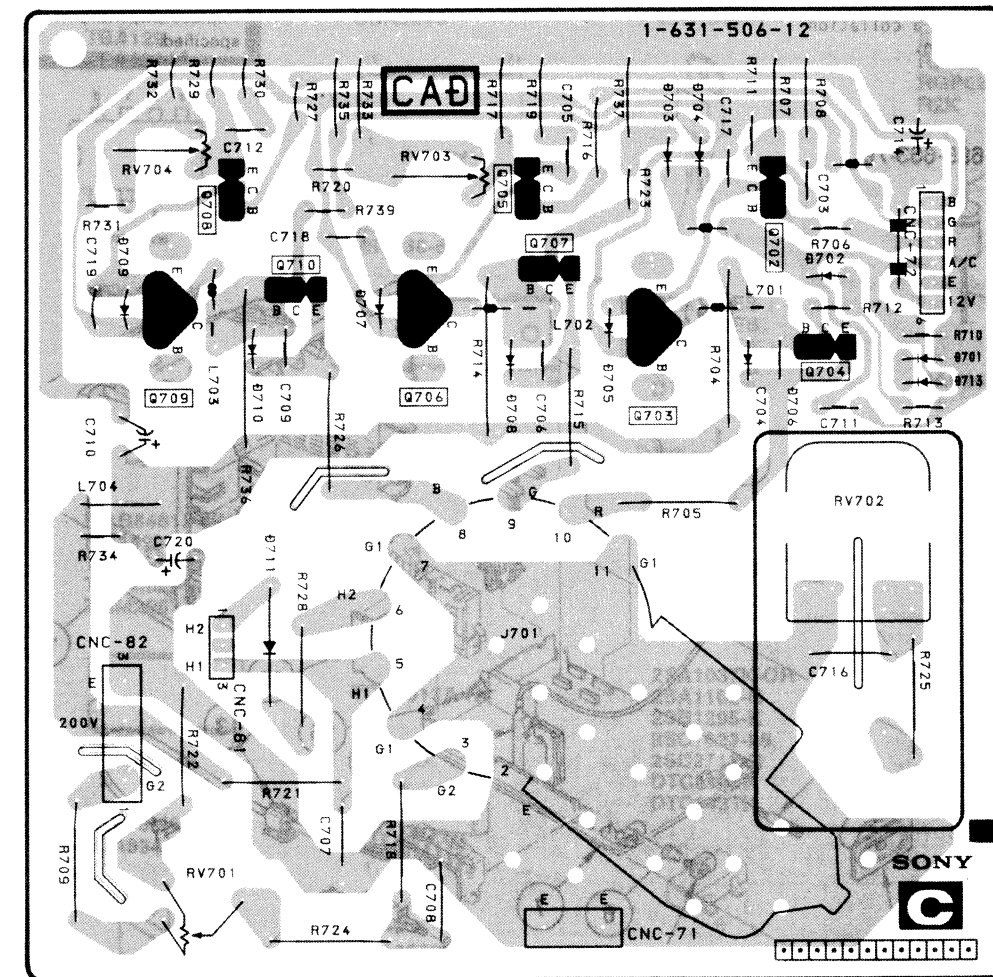
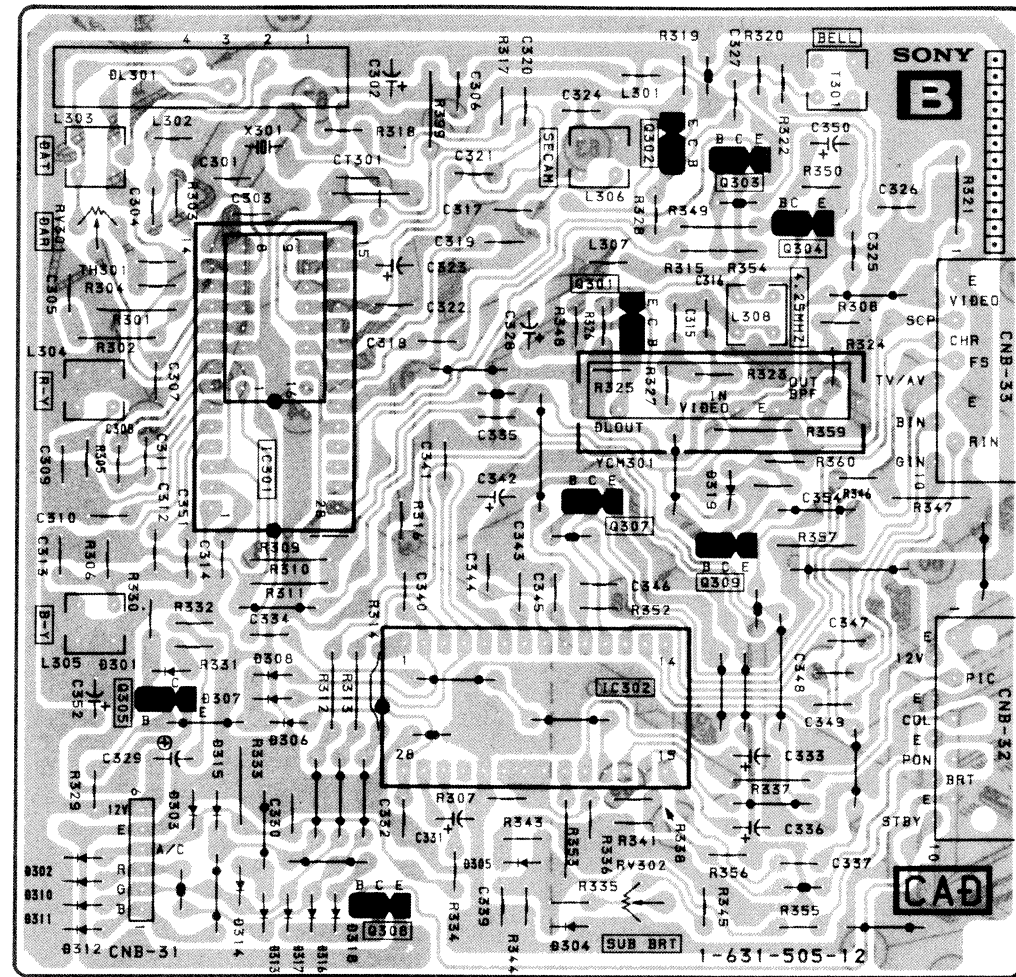
**— F Board —**



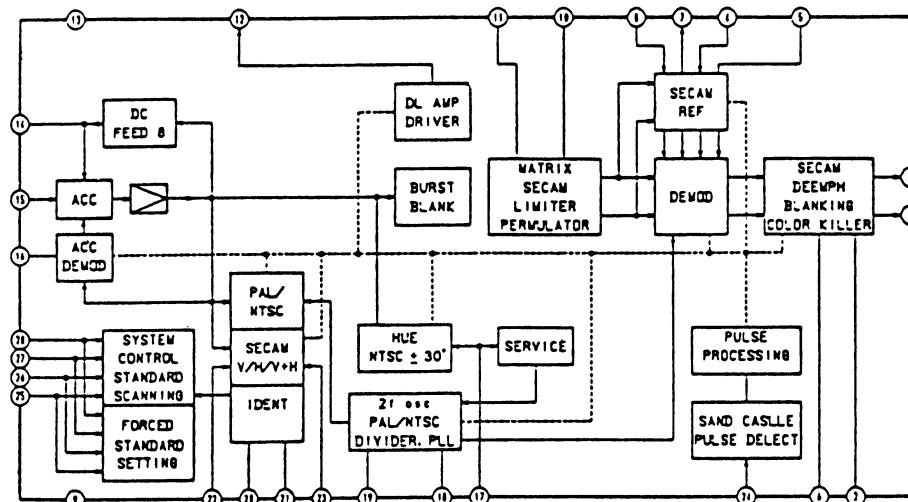
**NOTE:**  
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

— B Board —

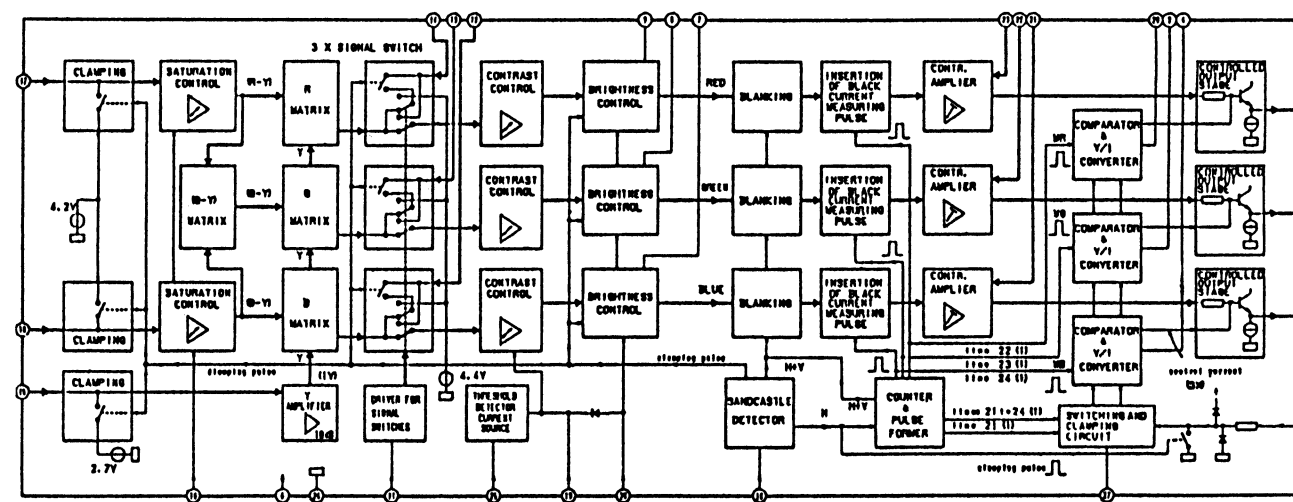
— C Board —



B BOARD IC301 TDA4555-V8



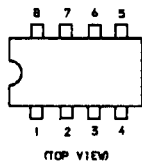
B BOARD IC302 TDA3505-V9



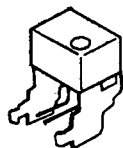


## 5-4. SEMICONDUCTORS

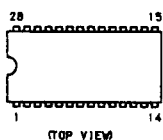
CXK1012P  
RC4558P  
TBA129  
TEA2014A



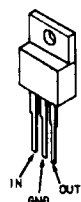
KEY-C005V



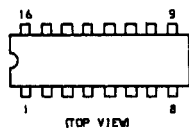
MAB8461P-W177  
SAA5231-V6  
TDA3505-V9  
TDA4555-V8  
TMM2063P-70



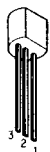
M5F78M12L  
TDA8341-N6



MC14053BCP  
TC4053BPHB



RC78L05A



SAA5243P/E-M2  
SDA5243



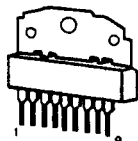
M50436-616SP  
M50438-616SP



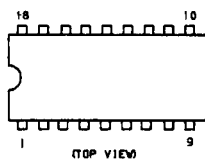
STR54041



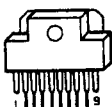
TDA1013A-N4



TDA2579A-N3



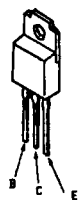
μ PC1488H



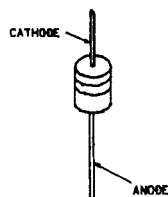
BF199  
BF871  
2SA733-K  
2SA1091-0



BU506DF-S  
2SD1585-K



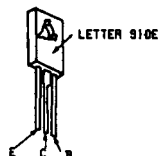
DTA114ES  
DTA124ES  
DTC114ES  
DTC124ES  
DTC143TS



2SA1037K-OR  
2SA1162-G  
2SB1295-K  
2SC1623-L6  
2SC2712-G  
DTC114EK  
DTC143TK



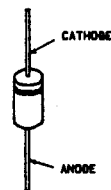
2SC2688-LK



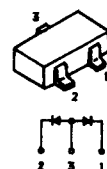
2SC2785-HFE



BY-D33G  
ES1F  
ERD28-08S  
RD5.6M-B2  
RGP02-17  
R2K



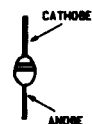
DAP202K



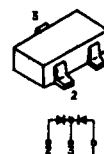
ERA83-006  
RD3.9ES-B1  
RD6.8ES-B1  
RD12ES-B1  
1SS119



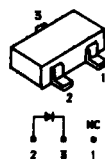
ERC06-15S  
U05G



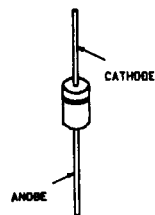
MA152WK



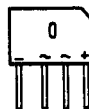
RD3.6M-B2  
RD13M-B1  
RD6.8M-B2



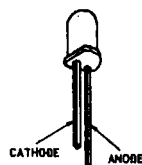
RU-3AM



KBU4JL-6088



CQX51L-5





## SECTION 6 EXPLODED VIEWS

### NOTE:

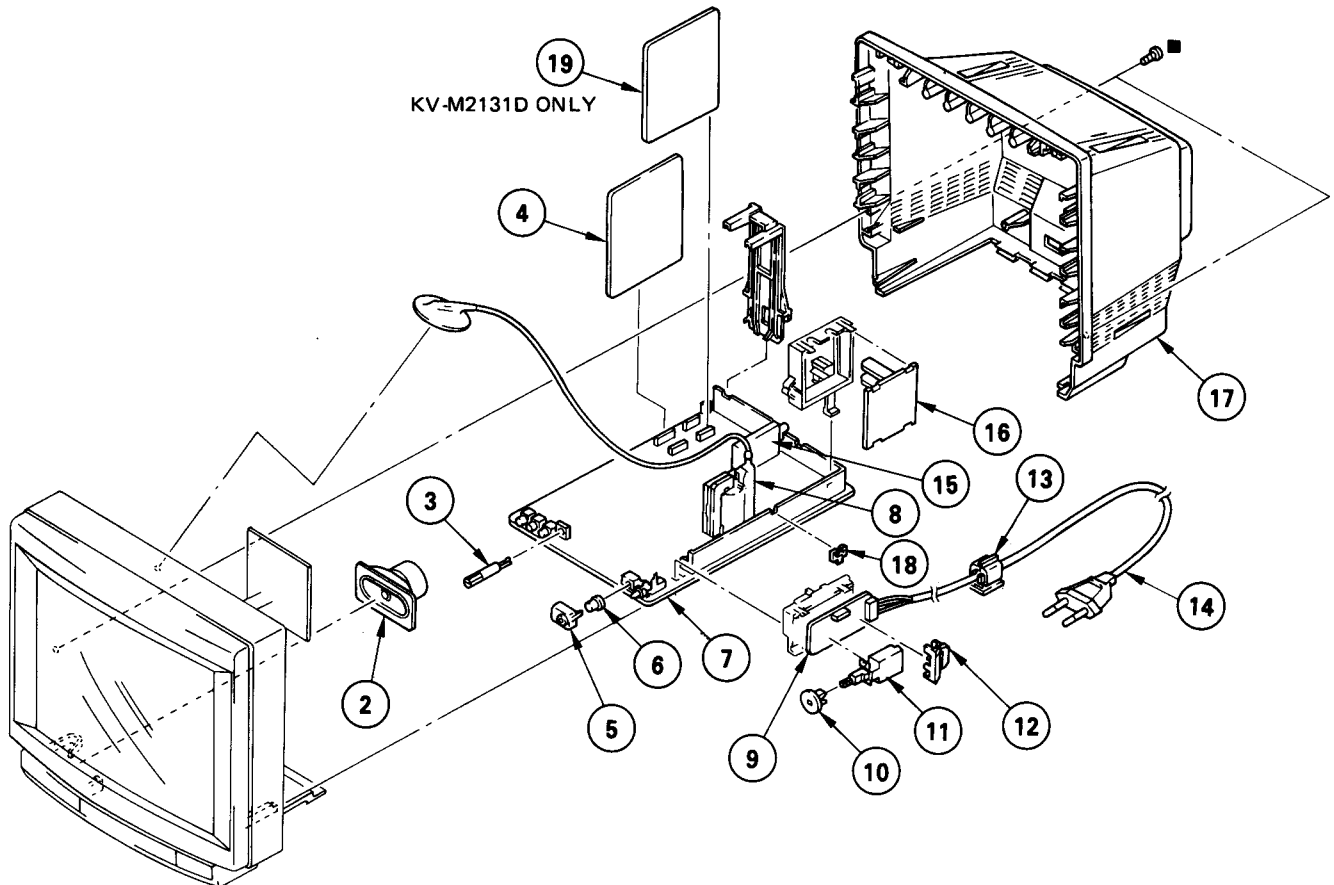
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.

- Items marked "★" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

### 6-1. REAR COVER

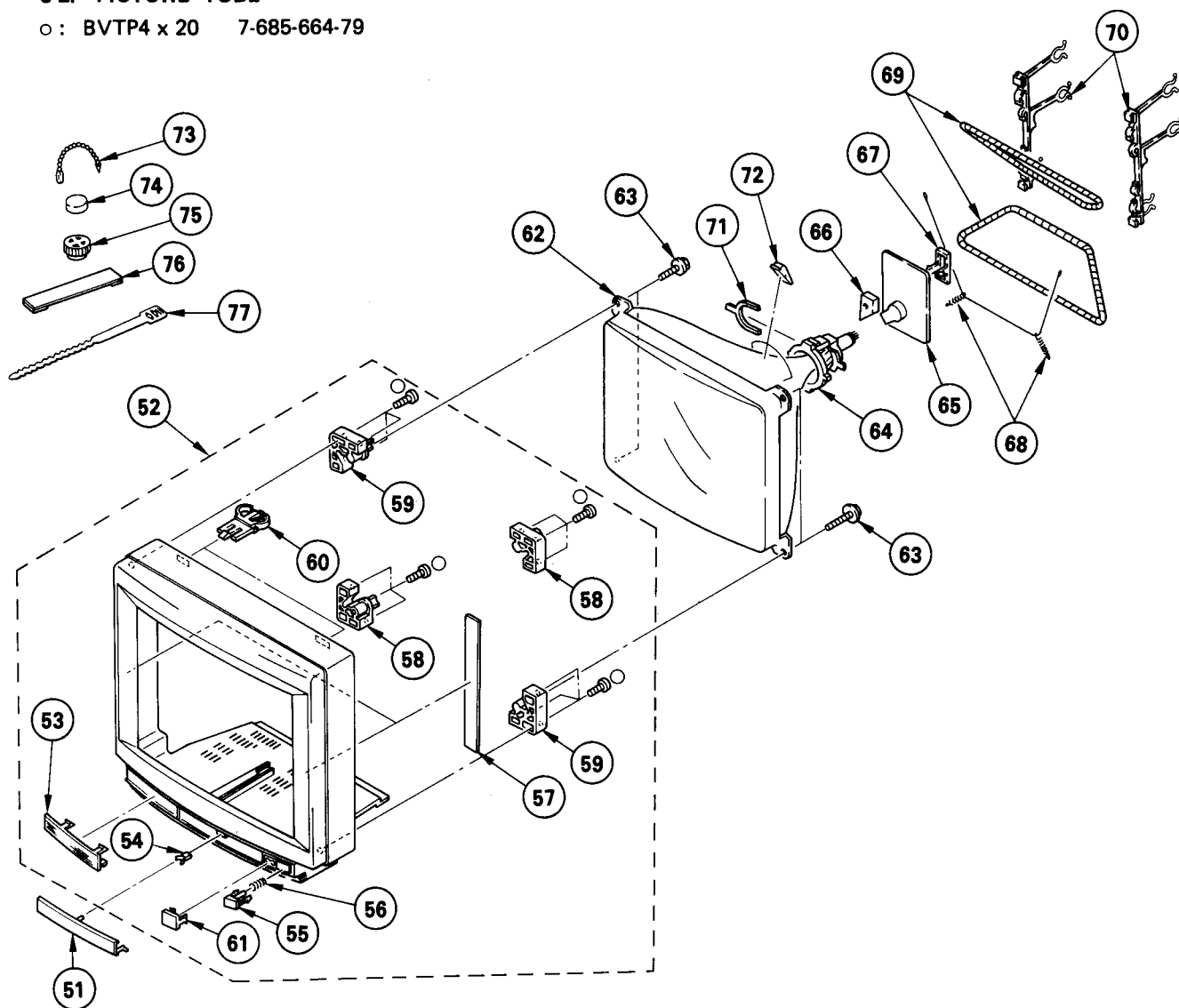
■: BVTP4 x 16    7-685-663-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
2	1-503-258-21	SPEAKER		11	$\Delta$ 1-571-433-11	SWITCH, PUSH (AC POWER)	
3	4-389-302-01	KNOB, VOLUME		12	*4-386-620-01	COVER, POWER	
4	*A-1621-007-A	B BOARD, COMPLETE		13	$\Delta$ 4-389-201-02	HOLDER, AC CORD	
5	*4-381-686-01	BRACKET (B), LIGHT GUIDE		14	$\Delta$ 1-559-346-12	CORD, POWER (WITH CONNECTOR)	
6	*4-374-987-01	GUIDE, LIGHT		15	$\Delta$ 1-463-881-11	TUNER, ET (UV-617)	
7	*A-1642-023-A	D BOARD, COMPLETE (KV-M2130D ONLY)		16	*1-631-507-11	D1 BOARD	
	*A-1642-024-A	D BOARD, COMPLETE (KV-M2131D ONLY)		17	4-391-472-02	COVER, REAR	
8	$\Delta$ 1-439-416-11	TRANSFORMER ASSY, FLYBACK (UX-1600)		18	*3-646-071-00	HOLDER, WIRE	
9	*1-631-508-11	F BOARD		19	*A-1347-031-A	V BOARD, COMPLETE (KV-M2131D ONLY)	
10	4-386-611-01	COVER, SWITCH					

## 6-2. PICTURE TUBE

○ : BVTP4 x 20 7-685-664-79



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-200-292-01	DOOR, CONTROL (KV-M2130D ONLY)		64	1-451-295-11	DEFLECTION YOKE (Y21PFA2)	
	4-200-292-11	DOOR, CONTROL (KV-M2131D ONLY)		65	*A-1330-992-A	C BOARD, COMPLETE	
52	X-4200-042-1	CABINET ASSY (WITH BEZEL ASSY)	53-61	66	*4-379-167-01	COVER (MAIN), CV	
53	4-200-290-01	GRILLE, SPEAKER		67	*4-379-160-01	COVER (REAR LID), CV	
54	4-392-036-01	CATCHER, PUSH		68	4-369-318-00	SPRING, TENSION	
55	4-389-375-01	BUTTON, POWER		69	1-426-383-11	COIL, DEMAGNETIZATION	
56	4-367-209-00	SPRING, COMPRESSION		70	*4-386-622-01	BAND, DGC	
57	4-386-645-01	CUSHION, PICTURE TUBE		71	1-452-277-00	MAGNET, BMC	
58	*4-387-805-03	BRACKET (A), PICTURE TUBE		72	3-704-495-01	SPACER, DY	
59	*4-387-806-03	BRACKET (B), PICTURE TUBE		73	4-308-870-00	CLIP, LEAD WIRE	
60	4-387-960-01	HOLDER, REAR COVER		74	1-452-032-00	MAGNET, DISK; 10MM $\phi$	
61	4-200-289-01	PLATE, ORNAMENTAL		75	1-452-094-00	MAGNET, ROTABLE DISK; 15MM $\phi$	
62	8-738-753-05	PICTURE TUBE (A51JXH60X)		76	X-4309-608-0	PERMALLOY ASSY, CONVERGENCE	
63	4-382-733-01	SCREW (S), PT		77	3-701-007-00	BAND, BINDING	

The components identified by shading and mark  $\Delta$  are critical for safety. Replace only with part number specified.

# SECTION 7

## ELECTRICAL PARTS LIST

**F** **C**

### NOTE:

The components identified by shading and mark **Δ** are critical for safety.  
Replace only with part number specified.

• Items marked " \* " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

• All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

When indicating parts by reference number, please include the board name.

### CAPACITORS

• MF :  $\mu F$ , PF :  $\mu F$

### COILS

• MMH : mH, UH :  $\mu H$

### RESISTORS

• All resistors are in ohms  
• F : nonflammable

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
	*1-631-508-11	F BOARD *****		D704	8-719-911-19	DIODE 1SS119	
		<CONNECTOR>		D705	8-719-911-19	DIODE 1SS119	
CNF61	*1-566-664-11	PIN, CONNECTOR 4P		D706	8-719-911-19	DIODE 1SS119	
CNF62	*1-566-664-11	PIN, CONNECTOR 4P		D707	8-719-911-19	DIODE 1SS119	
		<FUSE>		D708	8-719-911-19	DIODE 1SS119	
F601	<del>Δ</del> 1-576-016-11	FUSE, GLASS-TUBE (TIME-LAG) 3.15A/250V		D709	8-719-911-19	DIODE 1SS119	
	1-533-087-00	HOLDER, FUSE; F601		D710	8-719-911-19	DIODE 1SS119	
		<SWITCH>		D711	8-719-300-33	DIODE RU-3AM	
S601	<del>Δ</del> 1-571-433-11	SWITCH, PUSH (AC POWER)				<JACK>	
		*****		J701	1-526-798-51	SOCKET, PICTURE TUBE	
		<CAPACITOR>				<COIL>	
*A-1330-992-A		C BOARD, COMPLETE *****		L704	1-410-878-11	INDUCTOR 33UH	
		<TRANSISTOR>				<RESISTOR>	
*4-379-160-01		COVER (REAR LID), CV		Q702	8-729-119-78	TRANSISTOR 2SC2785-HFE	
*4-379-167-01		COVER (MAIN), CV		Q703	8-729-906-70	TRANSISTOR BF871	
		<CAPACITOR>		Q704	8-729-200-17	TRANSISTOR 2SA1091-0	
C703	1-102-820-00	CERAMIC 330PF 5% 50V		Q705	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C704	1-102-116-00	CERAMIC 680PF 10% 50V		Q706	8-729-906-70	TRANSISTOR BF871	
C705	1-102-980-00	CERAMIC 270PF 5% 50V		Q707	8-729-200-17	TRANSISTOR 2SA1091-0	
C706	1-102-116-00	CERAMIC 680PF 10% 50V		Q708	8-729-119-78	TRANSISTOR 2SC2785-HFE	
C707	1-162-116-00	CERAMIC 680PF 10% 2KV		Q709	8-729-906-70	TRANSISTOR BF871	
C708	1-162-114-00	CERAMIC 0.0047MF 2KV		Q710	8-729-200-17	TRANSISTOR 2SA1091-0	
C709	1-102-116-00	CERAMIC 680PF 10% 50V				<RESISTOR>	
C710	1-123-947-00	ELECT 10MF 20% 250V		R704	1-216-487-11	METAL OXIDE 12K 5% 3W F	
C712	1-102-820-00	CERAMIC 330PF 5% 50V		R705	1-202-824-00	SOLID 3.3K 10% 1/2W	
C714	1-124-360-00	ELECT 1000MF 20% 16V		R706	1-249-409-11	CARBON 220 5% 1/4W	
C716	1-162-622-11	CERAMIC 330PF 10% 400V		R707	1-249-413-11	CARBON 470 5% 1/4W	
C717	1-102-114-00	CERAMIC 470PF 10% 50V		R708	1-249-401-11	CARBON 47 5% 1/4W	
C718	1-102-114-00	CERAMIC 470PF 10% 50V		R709	1-202-844-00	SOLID 330K 10% 1/2W	
C719	1-102-114-00	CERAMIC 470PF 10% 50V		R711	1-249-425-11	CARBON 4.7K 5% 1/4W	
		<CONNECTOR>		R712	1-249-417-11	CARBON 1K 5% 1/4W	
CNC71	*1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P		R713	1-215-469-00	METAL 100K 1% 1/6W	
CNC72	*1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P		R714	1-216-487-11	METAL OXIDE 12K 5% 3W F	
CNC81	*1-560-123-00	PLUG, CONNECTOR (2.5MM) 3P		R715	1-202-824-00	SOLID 3.3K 10% 1/2W	
CNC82	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P		R716	1-249-409-11	CARBON 220 5% 1/4W	
		<DIODE>		R717	1-249-415-11	CARBON 680 5% 1/4W	
D702	8-719-911-19	DIODE 1SS119		R718	1-202-814-11	SOLID 33K 10% 1/2W	
D703	8-719-911-19	DIODE 1SS119		R719	1-249-401-11	CARBON 47 5% 1/4W	
				R720	1-249-423-11	CARBON 3.3K 5% 1/4W	
				R721	1-202-842-11	SOLID 220K 10% 1/2W	
				R722	1-202-848-00	SOLID 680K 10% 1/2W	
				R723	1-249-417-11	CARBON 1K 5% 1/4W	
				R724	1-202-846-00	SOLID 470K 10% 1/2W	





REF.NO.	PART NO.	DESCRIPTION				REMARK	REF.NO.	PART NO.	DESCRIPTION				REMARK
R725	1-202-838-00	SOLID	100K	10%	1/2W	F	R877	1-249-428-11	CARBON	8.2K	5%	1/4W	
R726	1-202-824-00	SOLID	3.3K	10%	1/2W		R878	1-249-430-11	CARBON	12K	5%	1/4W	
R727	1-249-409-11	CARBON	220	5%	1/4W		R879	1-247-891-00	CARBON	330K	5%	1/4W	
R728	1-216-347-11	METAL OXIDE	0.68	5%	1W		<VARIABLE RESISTOR>						
R729	1-249-416-11	CARBON	820	5%	1/4W		RV870	1-230-233-11	RES, ADJ, CERAMIC CARBON	4.7K			
R730	1-249-401-11	CARBON	47	5%	1/4W		RV871	1-230-236-11	RES, ADJ, CERAMIC CARBON	47K			
R731	1-249-423-11	CARBON	3.3K	5%	1/4W		*****						
R732	1-249-415-11	CARBON	680	5%	1/4W		*A-1347-031-A	V BOARD, COMPLETE (KV-M2131D ONLY)					
R733	1-249-415-11	CARBON	680	5%	1/4W	F	*****						
R734	1-249-405-11	CARBON	100	5%	1/4W		*4-380-699-01	CASE (UPPER LID), SHIELD, A1					
R735	1-215-493-00	METAL	1M	1%	1/6W		<CAPACITOR>						
R736	1-216-487-11	METAL OXIDE	12K	5%	3W		C02	1-124-120-11	ELECT	220MF	20%	16V	
R737	1-215-483-00	METAL	390K	1%	1/6W		C03	1-124-119-00	ELECT	330MF	20%	16V	
R739	1-249-417-11	CARBON	1K	5%	1/4W		C05	1-126-101-11	ELECT	100MF	20%	16V	
<VARIABLE RESISTOR>							C06	1-124-120-11	ELECT	220MF	20%	16V	
RV701	1-230-641-11	RES, ADJ, METAL GLAZE	2.2M				C07	1-124-791-11	ELECT	1MF	20%	50V	
RV702	1-230-619-11	RES, ADJ, METAL GLAZE	110M				C08	1-163-097-00	CERAMIC CHIP	15PF	5%	50V	
RV703	1-237-749-11	RES, ADJ, CARBON	2200				C09	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
RV704	1-237-749-11	RES, ADJ, CARBON	2200				C10	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
*****							C11	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	
*1-631-507-11	D1 BOARD						C12	1-163-127-00	CERAMIC CHIP	270PF	5%	50V	
*****							C13	1-163-117-00	CERAMIC CHIP	100PF	5%	50V	
<CAPACITOR>							C14	1-163-097-00	CERAMIC CHIP	15PF	5%	50V	
C871	1-126-101-11	ELECT	100MF	20%	16V	C15	1-163-103-00	CERAMIC CHIP	27PF	5%	50V		
C873	1-123-932-00	ELECT	4.7MF	20%	160V	C16	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V		
C874	1-126-233-11	ELECT	22MF	20%	50V	C17	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V		
C875	1-102-074-00	CERAMIC	0.001MF	10%	50V	C18	1-163-099-00	CERAMIC CHIP	18PF	5%	50V		
C877	1-126-101-11	ELECT	100MF	20%	16V	C19	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V		
<CONNECTOR>							C20	1-163-125-00	CERAMIC CHIP	220PF	5%	50V	
CND184*1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P						C21	1-163-833-00	CERAMIC CHIP	0.068MF	25V		
CND185*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)						C24	1-126-101-11	ELECT	100MF	20%	16V	
<DIODE>							C25	1-124-477-11	ELECT	47MF	20%	16V	
D870	8-719-911-19	DIODE 1SS119					C27	1-163-129-00	CERAMIC CHIP	330PF	5%	50V	
<IC>							C28	1-163-137-00	CERAMIC CHIP	680PF	5%	50V	
IC870	8-759-945-58	IC RC4558P					C29	1-124-927-11	ELECT	4.7MF	20%	50V	
<COIL>							C51	1-163-038-00	CERAMIC CHIP	0.1MF	25V		
L870	1-459-105-21	COIL(WITH CORE)					C52	1-163-038-00	CERAMIC CHIP	0.1MF	25V		
<TRANSISTOR>							C53	1-163-038-00	CERAMIC CHIP	0.1MF	25V		
Q870	8-729-107-26	TRANSISTOR 2SD1585-K					C54	1-163-038-00	CERAMIC CHIP	0.1MF	25V		
*4-368-683-01	SPRING; Q870						C55	1-163-038-00	CERAMIC CHIP	0.1MF	25V		
<RESISTOR>							C56	1-163-038-00	CERAMIC CHIP	0.1MF	25V		
R870	1-249-417-11	CARBON	1K	5%	1/4W	C57	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V		
R871	1-249-438-11	CARBON	56K	5%	1/4W	C58	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V		
R872	1-249-410-11	CARBON	270	5%	1/4W	C59	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V		
R874	1-249-425-11	CARBON	4.7K	5%	1/4W	<CONNECTOR>							
R875	1-249-427-11	CARBON	6.8K	5%	1/4W	CNV01	*1-565-393-11	CONNECTOR, BOARD TO BOARD					
R876	1-249-436-11	CARBON	39K	5%	1/4W	CNV02	*1-565-393-11	CONNECTOR, BOARD TO BOARD					
<TRIMMER>							CNV03	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P				
CT01	1-141-392-11	CAP, VAR, TRIMMER (1 GANG)					<DIODE>						
D01	8-719-105-91	DIODE RD5.6M-B2											

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

V

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
D02	8-719-106-79	DIODE RD13M-B1		JW22	1-216-295-00	METAL GLAZE	0 5% 1/10W
D03	8-719-400-18	DIODE MA152WK		JW23	1-216-295-00	METAL GLAZE	0 5% 1/10W
D04	8-719-105-52	DIODE RD3.6M-B2		JW24	1-216-295-00	METAL GLAZE	0 5% 1/10W
D07	8-719-106-17	DIODE RD6.8M-B2		JW25	1-216-295-00	METAL GLAZE	0 5% 1/10W
D08	8-719-106-17	DIODE RD6.8M-B2					
D09	8-719-400-18	DIODE MA152WK		R01	1-218-326-11	METAL GLAZE	470 5% 1/2W
D10	8-719-400-18	DIODE MA152WK		R02	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
D11	8-719-914-44	DIODE DAP202K		R04	1-218-326-11	METAL GLAZE	470 5% 1/2W
D12	8-719-914-44	DIODE DAP202K		R05	1-216-025-00	METAL GLAZE	100 5% 1/10W
				R06	1-216-049-00	METAL GLAZE	1K 5% 1/10W
<IC>				R07	1-216-025-00	METAL GLAZE	100 5% 1/10W
IC1	8-759-986-92	IC MAB-8461P-W177		R08	1-216-037-00	METAL GLAZE	330 5% 1/10W
IC2	8-759-972-96	IC SAA5231-V6		R09	1-216-091-00	METAL GLAZE	56K 5% 1/10W
IC3	8-759-032-98	IC SDA5243		R13	1-216-025-00	METAL GLAZE	100 5% 1/10W
IC4	8-759-230-68	IC TMM2063P-70		R14	1-216-025-00	METAL GLAZE	100 5% 1/10W
<COIL>				R15	1-216-121-00	METAL GLAZE	1M 5% 1/10W
L01	1-408-411-00	INDUCTOR 15UH		R16	1-216-055-00	METAL GLAZE	1.8K 5% 1/10W
L04	1-408-407-00	INDUCTOR 6.8UH		R17	1-216-049-00	METAL GLAZE	1K 5% 1/10W
L05	1-408-407-00	INDUCTOR 6.8UH		R18	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
L06	1-408-407-00	INDUCTOR 6.8UH		R19	1-216-037-00	METAL GLAZE	330 5% 1/10W
<IC LINK>				R20	1-216-063-00	METAL GLAZE	3.9K 5% 1/10W
PS01 $\Delta$	1-532-679-91	LINK, IC (ICP-N15) 0.6A		R27	1-216-013-00	METAL GLAZE	33 5% 1/10W
PS02 $\Delta$	1-532-727-91	LINK, IC 0.25A		R28	1-216-013-00	METAL GLAZE	33 5% 1/10W
<TRANSISTOR>				R29	1-216-013-00	METAL GLAZE	33 5% 1/10W
Q3	8-729-900-53	TRANSISTOR DTC114EK		R30	1-218-325-11	METAL GLAZE	120 5% 1/4W
Q01	8-729-107-26	TRANSISTOR 2SD1585-K		R31	1-218-325-11	METAL GLAZE	120 5% 1/4W
Q02	8-729-807-50	TRANSISTOR 2SD1623-R		R33	1-216-023-00	METAL GLAZE	82 5% 1/10W
Q04	8-729-271-22	TRANSISTOR 2SC2712-G		R34	1-216-049-00	METAL GLAZE	1K 5% 1/10W
Q05	8-729-807-50	TRANSISTOR 2SD1623-R		R37	1-216-025-00	METAL GLAZE	100 5% 1/10W
Q06	8-729-271-22	TRANSISTOR 2SC2712-G		R38	1-216-047-00	METAL GLAZE	820 5% 1/10W
Q07	8-729-900-98	TRANSISTOR DTC143TK		R40	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
Q09	8-729-807-87	TRANSISTOR 2SB1295-UL6		R41	1-216-041-00	METAL GLAZE	470 5% 1/10W
Q10	8-729-807-87	TRANSISTOR 2SB1295-UL6		R43	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
Q11	8-729-807-87	TRANSISTOR 2SB1295-UL6		R44	1-216-041-00	METAL GLAZE	470 5% 1/10W
<RESISTOR>				R45	1-216-049-00	METAL GLAZE	1K 5% 1/10W
JW1	1-216-295-00	METAL GLAZE	0 5% 1/10W	R46	1-216-311-00	METAL GLAZE	6.8 5% 1/10W
JW2	1-216-295-00	METAL GLAZE	0 5% 1/10W	R51	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JW3	1-216-295-00	METAL GLAZE	0 5% 1/10W	R52	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JW4	1-216-295-00	METAL GLAZE	0 5% 1/10W	R53	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JW5	1-216-295-00	METAL GLAZE	0 5% 1/10W	R54	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JW6	1-216-295-00	METAL GLAZE	0 5% 1/10W	R55	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
JW7	1-216-295-00	METAL GLAZE	0 5% 1/10W	R56	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JW8	1-216-295-00	METAL GLAZE	0 5% 1/10W	R57	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JW9	1-216-295-00	METAL GLAZE	0 5% 1/10W	R58	1-216-061-00	METAL GLAZE	3.3K 5% 1/10W
JW10	1-216-295-00	METAL GLAZE	0 5% 1/10W	R59	1-216-069-00	METAL GLAZE	6.8K 5% 1/10W
JW11	1-216-295-00	METAL GLAZE	0 5% 1/10W	R60	1-216-076-00	METAL GLAZE	13K 5% 1/10W
JW12	1-216-295-00	METAL GLAZE	0 5% 1/10W	R61	1-216-083-00	METAL GLAZE	27K 5% 1/10W
JW13	1-216-295-00	METAL GLAZE	0 5% 1/10W	R62	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JW14	1-216-295-00	METAL GLAZE	0 5% 1/10W	R63	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JW15	1-216-295-00	METAL GLAZE	0 5% 1/10W	R64	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JW16	1-216-295-00	METAL GLAZE	0 5% 1/10W	R65	1-216-065-00	METAL GLAZE	4.7K 5% 1/10W
JW17	1-216-295-00	METAL GLAZE	0 5% 1/10W	R66	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
JW18	1-216-295-00	METAL GLAZE	0 5% 1/10W	R67	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
JW19	1-216-295-00	METAL GLAZE	0 5% 1/10W	R68	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
JW20	1-216-295-00	METAL GLAZE	0 5% 1/10W	R69	1-216-057-00	METAL GLAZE	2.2K 5% 1/10W
JW21	1-216-295-00	METAL GLAZE	0 5% 1/10W	<VARIABLE RESISTOR>			
				RV01	1-238-012-11	RES, ADJ, CARBON 1K	
<CRYSTAL>							
X01	1-567-162-00	OSCILLATOR, CRYSTAL					



REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
X02	1-567-495-11	OSCILLATOR, CRYSTAL		CNB31	*1-560-126-00	PLUG, CONNECTOR (2.5MM) 6P	
X03	1-577-082-11	VIBRATOR, CERAMIC		CNB32	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
*****				CNB33	*1-565-393-11	CONNECTOR, BOARD TO BOARD	
*A-1621-007-A B BOARD, COMPLETE				<TRIMMER>			
*****				CT301	1-141-392-11	CAP, VAR, TRIMMER (1 GANG)	
<CAPACITOR>				<DIODE>			
C301	1-106-220-00	MYLAR	0.1MF	10%	100V	D301	8-719-911-19 DIODE 1SS119
C302	1-124-120-11	ELECT	220MF	20%	16V	D303	8-719-911-19 DIODE 1SS119
C303	1-101-005-00	CERAMIC	0.022MF		50V	D304	8-719-911-19 DIODE 1SS119
C304	1-106-367-00	MYLAR	0.01MF	10%	400V	D305	8-719-911-19 DIODE 1SS119
C305	1-101-884-00	CERAMIC	56PF	5%	50V	D306	8-719-911-19 DIODE 1SS119
C306	1-101-006-00	CERAMIC	0.047MF		50V	D307	8-719-911-19 DIODE 1SS119
C307	1-101-004-00	CERAMIC	0.01MF		50V	D308	8-719-911-19 DIODE 1SS119
C308	1-101-888-00	CERAMIC	68PF	5%	50V	D310	8-719-911-19 DIODE 1SS119
C309	1-102-816-00	CERAMIC	120PF	5%	50V	D311	8-719-911-19 DIODE 1SS119
C310	1-102-978-00	CERAMIC	220PF	5%	50V	D312	8-719-911-19 DIODE 1SS119
C311	1-102-953-00	CERAMIC	18PF	5%	50V	D313	8-719-911-19 DIODE 1SS119
C312	1-102-953-00	CERAMIC	18PF	5%	50V	D314	8-719-911-19 DIODE 1SS119
C313	1-102-816-00	CERAMIC	120PF	5%	50V	D315	8-719-911-19 DIODE 1SS119
C314	1-102-978-00	CERAMIC	220PF	5%	50V	D316	8-719-911-19 DIODE 1SS119
C315	1-102-944-00	CERAMIC	7PF	0.5PF	50V	D317	8-719-911-19 DIODE 1SS119
C316	1-102-944-00	CERAMIC	7PF	0.5PF	50V	D318	8-719-911-19 DIODE 1SS119
C317	1-102-816-00	CERAMIC	120PF	5%	50V	D319	8-719-911-19 DIODE 1SS119
C318	1-102-074-00	CERAMIC	0.001MF	10%	50V	<DELAY LINE>	
C319	1-106-375-12	MYLAR	0.022MF	10%	250V	DL301	1-415-122-31 DELAY LINE
C320	1-102-935-00	CERAMIC	2PF	0.25PF	50V	<IC>	
C321	1-130-785-11	MYLAR	0.47MF	10%	100V	IC301	8-759-947-20 IC TDA4555-V8
C322	1-106-383-00	MYLAR	0.047MF	10%	100V	IC302	8-759-947-19 IC TDA3505-V9
C323	1-124-791-11	ELECT	1MF	20%	50V	<COIL>	
C324	1-102-074-00	CERAMIC	0.001MF	10%	50V	L301	1-408-423-00 INDUCTOR 150UH
C325	1-101-004-00	CERAMIC	0.01MF		50V	L302	1-408-409-00 INDUCTOR 10UH
C326	1-101-361-00	CERAMIC	150PF	5%	50V	L303	1-404-539-11 COIL
C327	1-101-004-00	CERAMIC	0.01MF		50V	L304	1-404-554-11 COIL
C328	1-124-120-11	ELECT	220MF	20%	16V	L305	1-404-554-11 COIL
C329	1-131-367-00	TANTALUM	22MF	10%	16V	L306	1-404-554-11 COIL
C330	1-102-973-00	CERAMIC	100PF	5%	50V	L307	1-408-423-00 INDUCTOR 150UH
C331	1-124-927-11	ELECT	4.7MF	20%	50V	L308	1-404-495-00 COIL
C332	1-130-783-00	MYLAR	0.33MF	10%	100V	<TRANSISTOR>	
C333	1-124-791-11	ELECT	1MF	20%	50V	Q301	8-729-119-78 TRANSISTOR 2SC2785-HFE
C334	1-106-375-12	MYLAR	0.022MF	10%	250V	Q302	8-729-119-78 TRANSISTOR 2SC2785-HFE
C335	1-106-375-12	MYLAR	0.022MF	10%	250V	Q303	8-729-119-78 TRANSISTOR 2SC2785-HFE
C336	1-124-927-11	ELECT	4.7MF	20%	50V	Q304	8-729-119-78 TRANSISTOR 2SC2785-HFE
C337	1-130-834-00	MYLAR	1MF	10%	63V	Q305	8-729-119-78 TRANSISTOR 2SC2785-HFE
C339	1-106-375-12	MYLAR	0.022MF	10%	250V	Q307	8-729-119-78 TRANSISTOR 2SC2785-HFE
C340	1-130-783-00	MYLAR	0.33MF	10%	100V	Q308	8-729-900-80 TRANSISTOR DTC114ES
C341	1-130-783-00	MYLAR	0.33MF	10%	100V	Q309	8-729-173-38 TRANSISTOR 2SA733-K
C342	1-124-120-11	ELECT	220MF	20%	16V	<RESISTOR>	
C343	1-106-375-12	MYLAR	0.022MF	10%	250V	R301	1-249-418-11 CARBON 1.2K 5% 1/4W
C344	1-106-375-12	MYLAR	0.022MF	10%	250V	R302	1-249-401-11 CARBON 47 5% 1/4W
C345	1-106-375-12	MYLAR	0.022MF	10%	250V	<CONNECTOR>	
C346	1-101-880-00	CERAMIC	47PF	5%	50V		
C347	1-106-375-12	MYLAR	0.022MF	10%	250V		
C348	1-106-375-12	MYLAR	0.022MF	10%	250V		
C349	1-106-375-12	MYLAR	0.022MF	10%	250V		
C350	1-124-917-11	ELECT	33MF	20%	50V		
C351	1-101-888-00	CERAMIC	68PF	5%	50V		
C352	1-124-120-11	ELECT	220MF	20%	16V		
C354	1-106-216-00	MYLAR	0.068MF	10%	100V		

B

D

REF.NO.	PART NO.	DESCRIPTION	REMARK
R303	1-249-412-11	CARBON	390 5% 1/4W
R304	1-249-408-11	CARBON	180 5% 1/4W
R305	1-249-416-11	CARBON	820 5% 1/4W
R306	1-249-419-11	CARBON	1.5K 5% 1/4W
R307	1-249-431-11	CARBON	15K 5% 1/4W
R308	1-249-417-11	CARBON	1K 5% 1/4W
R309	1-249-409-11	CARBON	220 5% 1/4W
R310	1-247-891-00	CARBON	330K 5% 1/4W
R311	1-247-891-00	CARBON	330K 5% 1/4W
R312	1-249-405-11	CARBON	100 5% 1/4W
R313	1-249-405-11	CARBON	100 5% 1/4W
R314	1-249-405-11	CARBON	100 5% 1/4W
R315	1-249-437-11	CARBON	47K 5% 1/4W
R316	1-249-404-00	CARBON	82 5% 1/4W
R317	1-249-429-11	CARBON	10K 5% 1/4W
R318	1-247-848-11	CARBON	5.1K 5% 1/4W
R319	1-249-419-11	CARBON	1.5K 5% 1/4W
R320	1-249-437-11	CARBON	47K 5% 1/4W
R321	1-249-418-11	CARBON	1.2K 5% 1/4W
R322	1-249-417-11	CARBON	1K 5% 1/4W
R323	1-249-410-11	CARBON	270 5% 1/4W
R324	1-249-421-11	CARBON	2.2K 5% 1/4W
R325	1-249-419-11	CARBON	1.5K 5% 1/4W
R326	1-249-417-11	CARBON	1K 5% 1/4W
R327	1-249-415-11	CARBON	680 5% 1/4W
R328	1-249-437-11	CARBON	47K 5% 1/4W
R329	1-247-891-00	CARBON	330K 5% 1/4W
R330	1-249-440-11	CARBON	82K 5% 1/4W
R331	1-247-895-00	CARBON	470K 5% 1/4W
R332	1-247-903-00	CARBON	1M 5% 1/4W
R333	1-214-907-00	METAL	56K 1% W
R334	1-249-426-11	CARBON	5.6K 5% 1/4W
R335	1-249-439-11	CARBON	68K 5% 1/4W
R336	1-249-425-11	CARBON	4.7K 5% 1/4W
R337	1-249-413-11	CARBON	470 5% 1/4W
R338	1-249-413-11	CARBON	470 5% 1/4W
R341	1-249-431-11	CARBON	15K 5% 1/4W
R343	1-247-885-00	CARBON	180K 5% 1/4W
R344	1-249-432-11	CARBON	18K 5% 1/4W
R345	1-249-433-11	CARBON	22K 5% 1/4W
R346	1-249-413-11	CARBON	470 5% 1/4W
R347	1-249-417-11	CARBON	1K 5% 1/4W
R348	1-249-435-11	CARBON	33K 5% 1/4W
R349	1-249-436-11	CARBON	39K 5% 1/4W
R350	1-249-436-11	CARBON	39K 5% 1/4W
R352	1-249-437-11	CARBON	47K 5% 1/4W
R353	1-249-413-11	CARBON	470 5% 1/4W
R355	1-247-887-00	CARBON	220K 5% 1/4W
R356	1-247-887-00	CARBON	220K 5% 1/4W
R357	1-249-417-11	CARBON	1K 5% 1/4W
R359	1-249-417-11	CARBON	1K 5% 1/4W
R360	1-249-429-11	CARBON	10K 5% 1/4W
R399	1-247-903-00	CARBON	1M 5% 1/4W

## &lt;VARIABLE RESISTOR&gt;

RV301	1-238-009-11	RES, ADJ, CARBON 220
RV302	1-238-016-11	RES, ADJ, CARBON 10K

## &lt;TRANSFORMER&gt;

T301	1-404-584-11	COIL
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REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK		
			<CRYSTAL>			
	X301	1-567-131-00	OSCILLATOR, CRYSTAL			
			<MODULE>			
	YCM301	1-235-753-21	YC MODULE			
	*****					
	*A-1642-023-A	D BOARD, COMPLETE (KV-M2130D ONLY)				
		*****				
	*A-1642-024-A	D BOARD, COMPLETE (KV-M2131D ONLY)				
		*****				
	*4-341-751-01	EYELET				
	*4-341-752-01	EYELET				
			<CAPACITOR>			
	C001	1-126-233-11	ELECT	22MF	20%	50V
	C002	1-124-791-11	ELECT	1MF	20%	50V
	C003	1-124-791-11	ELECT	1MF	20%	50V
	C004	1-102-973-00	CERAMIC	100PF	5%	50V
	C005	1-106-220-00	MYLAR	0.1MF	10%	100V
	C007	1-124-927-11	ELECT	4.7MF	20%	50V
	C009	1-102-111-00	CERAMIC	270PF	10%	50V
	C010	1-102-965-00	CERAMIC	39PF	5%	50V
	C011	1-102-965-00	CERAMIC	39PF	5%	50V
	C012	1-101-004-00	CERAMIC	0.01MF		50V
	C013	1-102-959-00	CERAMIC	22PF	5%	50V
	C014	1-101-004-00	CERAMIC	0.01MF		50V
	C015	1-124-479-11	ELECT	330MF	20%	25V
	C016	1-102-978-00	CERAMIC	220PF	5%	50V
	C019	1-126-233-11	ELECT	22MF	20%	50V
	C020	1-126-233-11	ELECT	22MF	20%	50V
	C022	1-101-004-00	CERAMIC	0.01MF		50V
	C033	1-101-004-00	CERAMIC	0.01MF		50V
	C034	1-126-101-11	ELECT	100MF	20%	16V
	C037	1-101-004-00	CERAMIC	0.01MF		50V
	C041	1-102-116-00	CERAMIC	680PF	10%	50V
	C043	1-102-978-00	CERAMIC	220PF	5%	50V
	C071	1-106-220-00	MYLAR	0.1MF	10%	100V
	C072	1-106-383-00	MYLAR	0.047MF	10%	100V
	C073	1-101-004-00	CERAMIC	0.01MF		50V
	C075	1-102-074-00	CERAMIC	0.001MF	10%	50V
	C076	1-102-125-00	CERAMIC	0.0047MF	10%	50V
	C151	1-124-477-11	ELECT	47MF	20%	16V
	C152	1-124-480-11	ELECT	470MF	20%	25V
	C154	1-106-216-00	MYLAR	0.068MF	10%	100V
	C155	1-106-216-00	MYLAR	0.068MF	10%	100V
	C156	1-101-004-00	CERAMIC	0.01MF		50V
	C157	1-102-963-00	CERAMIC	33PF	5%	50V
	C158	1-124-477-11	ELECT	47MF	20%	16V
	C163	1-101-003-00	CERAMIC	0.0047MF		50V
	C201	1-124-479-11	ELECT	330MF	20%	25V
	C202	1-106-220-00	MYLAR	0.1MF	10%	100V
	C203	1-124-791-11	ELECT	1MF	20%	50V
	C204	1-106-383-00	MYLAR	0.047MF	10%	100V
	C205	1-123-875-11	ELECT	10MF	20%	50V
	C206	1-106-379-12	MYLAR	0.033MF	10%	250V
	C207	1-106-220-00	MYLAR	0.1MF	10%	100V
	C208	1-126-104-11	ELECT	470MF	20%	25V
	C209	1-102-074-00	CERAMIC	0.001MF	10%	50V

D

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK	
C210	1-102-114-00	CERAMIC	470PF 10%	50V	C623 $\Delta$ 1-162-578-51	CERAMIC	0.0047MF 20% 400V	
C212	1-102-973-00	CERAMIC	100PF 5%	50V	C626 $\Delta$ 1-102-316-91	CERAMIC	15PF 5% 500V	
C213	1-101-005-00	CERAMIC	0.022MF	50V	C629 $\Delta$ 1-102-316-91	CERAMIC	15PF 5% 500V	
C402	1-101-003-00	CERAMIC	0.0047MF	50V	C631	1-102-244-00	CERAMIC	220PF 10% 500V
C404	1-102-114-00	CERAMIC	470PF 10%	50V	C632	1-161-753-00	CERAMIC	470PF 10% 3KV
C405	1-124-902-00	ELECT	0.47MF 20%	50V	C801	1-124-791-11	ELECT	1MF 20% 50V
C406	1-124-477-11	ELECT	47MF 20%	16V	C803	1-106-359-00	MYLAR	0.0047MF 10% 400V
C407	1-124-902-00	ELECT	0.47MF 20%	50V	C804	1-102-244-00	CERAMIC	220PF 10% 500V
C409	1-124-477-11	ELECT	47MF 20%	16V	C806 $\Delta$ 1-162-131-11	CERAMIC	220PF 10% 2KV	
C410	1-124-477-11	ELECT	47MF 20%	16V	C807	1-136-933-11	FILM	1MF 5% 100V
C411	1-102-074-00	CERAMIC	0.001MF 10%	50V	C808	1-136-187-11	FILM	0.047MF 10% 250V
C412	1-126-101-11	ELECT	100MF 20%	16V	C812 $\Delta$ 1-136-080-11	FILM	0.011MF 3% 2KV	
C413	1-126-233-11	ELECT	22MF 20%	50V	C815	1-124-634-11	ELECT	1MF 20% 250V
C415	1-126-233-11	ELECT	22MF 20%	50V	C819	1-102-114-00	CERAMIC	470PF 10% 50V
C417	1-101-005-00	CERAMIC	0.022MF	50V	C821	1-106-220-00	MYLAR	0.1MF 10% 100V
C418	1-102-074-00	CERAMIC	0.001MF 10%	50V	C822	1-136-540-11	FILM	0.82MF 5% 160V
C423	1-102-114-00	CERAMIC	470PF 10%	50V	C825	1-102-212-00	CERAMIC	820PF 10% 500V
C433	1-102-125-00	CERAMIC	0.0047MF 10%	50V	C851	1-123-948-00	ELECT	22MF 20% 250V
C501	1-101-004-00	CERAMIC	0.01MF	50V	C852	1-162-114-00	CERAMIC	0.0047MF 2KV
C502	1-102-117-00	CERAMIC	820PF 10%	50V	C853	1-162-318-11	CERAMIC	0.001MF 10% 500V
C503	1-101-880-00	CERAMIC	47PF 5%	50V	C856	1-162-318-11	CERAMIC	0.001MF 10% 500V
C504	1-124-480-11	ELECT	470MF 20%	25V	C857	1-106-375-12	MYLAR	0.022MF 10% 250V
C505	1-124-122-11	ELECT	100MF 20%	50V	C858	1-126-233-11	ELECT	22MF 20% 50V
C506	1-130-902-00	MYLAR	0.68MF 10%	63V	C859	1-126-101-11	ELECT	100MF 20% 16V
C507	1-124-913-11	ELECT	470MF 20%	50V	C860	1-102-228-00	CERAMIC	470PF 10% 500V
C508	1-106-220-00	MYLAR	0.1MF 10%	100V	<FILTER>			
C510	1-126-233-11	ELECT	22MF 20%	50V	CF001	1-577-082-11	VIBRATOR, CERAMIC	
C551	1-124-927-11	ELECT	4.7MF 20%	50V	<CONNECTOR>			
C552	1-124-927-11	ELECT	4.7MF 20%	50V	CND21	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
C553	1-106-220-00	MYLAR	0.1MF 10%	100V	CND42	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
C554	1-126-233-11	ELECT	22MF 20%	50V	CND43	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
C555	1-124-925-11	ELECT	2.2MF 20%	50V	CND44	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
C556	1-101-361-00	CERAMIC	150PF 5%	50V	(KV-M2131D ONLY)			
C557	1-130-783-00	MYLAR	0.33MF 10%	100V	CND45	*1-565-394-11	PIN, BOARD TO BOARD CONNECTOR	
C558	1-130-783-00	MYLAR	0.33MF 10%	100V	(KV-M2131D ONLY)			
C559	1-106-357-00	MYLAR	0.0039MF 10%	400V	CND61	*1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
C560	1-126-101-11	ELECT	100MF 20%	16V	CND62	*1-565-458-11	PIN, CONNECTOR 3P	
C561	1-106-220-00	MYLAR	0.1MF 10%	100V	CND81	*1-568-536-11	PLUG (MINIATURE DY) 6P	
C562	1-164-143-11	CERAMIC	0.001MF 10%	1KV	CND82	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P	
C563	1-124-477-11	ELECT	47MF 20%	16V	CND83	*1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
C564	1-136-298-00	FILM	0.0033MF 2%	100V	CND84	*1-560-124-00	PLUG, CONNECTOR (2.5MM) 4P	
C565	1-106-228-00	MYLAR	0.22MF 10%	100V	CND85	*1-560-290-00	PLUG, CONNECTOR (2.5MM PITCH)	
C566	1-102-951-00	CERAMIC	15PF 5%	50V	<DIODE>			
C567	1-106-371-00	MYLAR	0.015MF 10%	400V	D002	8-719-911-19	DIODE 1SS119	
C568	1-164-143-11	CERAMIC	0.001MF 10%	1KV	D003	8-719-911-19	DIODE 1SS119	
C570	1-124-902-00	ELECT	0.47MF 20%	50V	D004	8-719-911-19	DIODE 1SS119	
C571	1-126-101-11	ELECT	100MF 20%	16V	D005	8-719-312-99	DIODE SEL1210R-CD (KV-M2130D ONLY)	
C601 $\Delta$	1-161-964-61	CERAMIC	0.0047MF	250V		8-719-970-79	DIODE PLED-H544CL-6 (KV-M2131D ONLY)	
C602 $\Delta$	1-161-964-61	CERAMIC	0.0047MF	250V	*4-389-319-01	HOLDER, LED; D005		
C603	1-161-964-61	CERAMIC	0.0047MF	250V	D007	8-719-911-19	DIODE 1SS119	
C604	1-125-318-00	ELECT (BLOCK)	220MF 20%	400V	D008	8-719-911-19	DIODE 1SS119	
C605	1-161-754-00	CERAMIC	0.001MF 10%	2KV	D009	8-719-911-19	DIODE 1SS119	
C606	1-136-637-11	FILM	0.047MF 10%	630V	D010	8-719-911-19	DIODE 1SS119	
C607	1-106-383-00	MYLAR	0.047MF 10%	100V	D011	8-719-911-19	DIODE 1SS119	
C608	1-162-116-00	CERAMIC	680PF 10%	2KV	D016	8-719-911-19	DIODE 1SS119	
C609	1-124-347-00	ELECT	100MF 20%	160V	D017	8-719-911-19	DIODE 1SS119	
C610	1-124-557-11	ELECT	1000MF 20%	25V	D019	8-719-911-19	DIODE 1SS119	
C614	1-126-101-11	ELECT	100MF 20%	16V	D025	8-719-109-71	DIODE RD3.9ES-R1	
C615 $\Delta$	1-162-578-51	CERAMIC	0.0047MF 20%	400V				
C616 $\Delta$	1-162-578-51	CERAMIC	0.0047MF 20%	400V				
C618	1-126-233-11	ELECT	22MF 20%	50V				
C620 $\Delta$	1-136-519-11	FILM	0.47MF 20%	300V				
C621 $\Delta$	1-136-519-11	FILM	0.47MF 20%	300V				
C622 $\Delta$	1-162-578-51	CERAMIC	0.0047MF 20%	400V				

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Replace only with part number specified.

D

REF. NO.	PART NO.	DESCRIPTION
D151	8-719-911-19	DIODE 1SS119
D156	8-719-911-19	DIODE 1SS119
D201	8-719-911-19	DIODE 1SS119
D202	8-719-911-19	DIODE 1SS119
D402	8-719-109-96	DIODE RD6.8ES-B1
D403	8-719-109-96	DIODE RD6.8ES-B1
D404	8-719-109-96	DIODE RD6.8ES-B1
D405	8-719-911-19	DIODE 1SS119
D406	8-719-911-19	DIODE 1SS119
D407	8-719-911-19	DIODE 1SS119
D408	8-719-911-19	DIODE 1SS119
D410	8-719-911-19	DIODE 1SS119
D411	8-719-911-19	DIODE 1SS119
D413	8-719-110-30	DIODE RD12ES-B1
D414	8-719-911-19	DIODE 1SS119
D415	8-719-911-19	DIODE 1SS119
D416	8-719-911-19	DIODE 1SS119
D419	8-719-911-19	DIODE 1SS119
D420	8-719-911-19	DIODE 1SS119
D421	8-719-911-19	DIODE 1SS119
D501	8-719-911-55	DIODE U05G
D551	8-719-911-55	DIODE U05G
D601	8-719-946-90	DIODE KBU4JL-6088
D602	8-719-300-65	DIODE ES1F
D603	8-719-911-55	DIODE U05G
D604	8-719-928-08	DIODE ERD28-08S
D605	8-719-950-57	DIODE BYD33G
D606	8-719-980-78	DIODE ERA83-006
D607	8-719-950-57	DIODE BYD33G
D608	8-719-950-57	DIODE BYD33G
D609	8-719-911-55	DIODE U05G
D610	8-719-911-55	DIODE U05G
D611	8-719-312-40	DIODE R2K
D801	8-719-945-80	DIODE ERC06-15S
D802	8-719-928-08	DIODE ERD28-08S
D851	8-719-950-57	DIODE BYD33G
D852	8-719-300-65	DIODE ES1F
D853	8-719-950-57	DIODE BYD33G
D855	8-719-950-57	DIODE BYD33G
D857	8-719-911-55	DIODE U05G
D858	8-719-911-55	DIODE U05G
<IC>		
IC001	8-759-630-92	IC M50436-616SP
IC002	8-752-330-60	IC CXK1012P
IC003	8-749-920-65	IC KEY-C00SV
IC004	8-759-157-40	IC UPC574J
IC005	8-759-982-21	IC RC78L05A
IC201	8-759-980-45	IC TDA1013A-N4
IC401	8-759-040-53	IC MC14053BCP
IC402	8-759-946-32	IC TEA2014A
IC501	8-759-113-05	IC UPC1488H
	*4-368-683-01	SPRING; IC501
IC551	8-759-991-46	IC TDA2579A-N8
IC601	8-749-901-65	IC STR54041
	4-365-216-00	SPACER, MICA; IC601
	*4-368-683-01	SPRING; IC601
IC851	8-759-604-39	IC M5F78W12L
	*4-368-683-01	SPRING; IC851

<JACK>

REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
	J201	1-507-678-00	JACK	
	J401	1-561-534-00	SOCKET 21P	
	J402	1-563-500-11	JACK BLOCK, PIN (L TYPE) 2P	
	<COIL>			
	L002	1-408-411-00	INDUCTOR 15UH	
	L003	1-408-409-00	INDUCTOR 10UH	
	L004	1-408-415-00	INDUCTOR 33UH	
	L005	1-410-663-31	INDUCTOR 10UH	
	L151	1-408-226-00	INDUCTOR 82UH	
	L152	1-410-683-31	INDUCTOR 560UH	
	L153	1-408-399-00	INDUCTOR 1.5UH	
	L201	1-408-409-00	INDUCTOR 10UH	
	L202	1-408-409-00	INDUCTOR 10UH	
	L401	1-408-417-00	INDUCTOR 47UH	
	L403	1-408-409-00	INDUCTOR 10UH	
	L410	1-410-316-11	INDUCTOR 1UH	
	L501	1-408-226-00	INDUCTOR 82UH	
	L803	1-407-365-00	COIL, CHOKE	
	L805	1-459-652-12	HLC	
	L806	1-459-390-00	COIL (WITH CORE)	
	L821	1-459-104-00	COIL, DUST CORE	
	L822	1-410-067-21	INDUCTOR 4.7MMH	
	L823	1-459-855-11	COIL, FERRITE	
	<IC LINK>			
	PS501A	1-532-685-91	LINK, IC 0.8A	
	PS802A	1-532-637-91	LINK, IC 1A	
	<TRANSISTOR>			
	Q001	8-729-900-36	TRANSISTOR DTC124ES	
	Q003	8-729-900-63	TRANSISTOR DTA124ES	
	Q004	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	Q005	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	Q008	8-729-900-36	TRANSISTOR DTC124ES	
	Q009	8-729-900-74	TRANSISTOR DTC143TS	
	Q012	8-729-173-38	TRANSISTOR 2SA733-K	
	Q015	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	Q071	8-729-173-38	TRANSISTOR 2SA733-K	
	Q151	8-729-900-61	TRANSISTOR DTA114ES	
	Q152	8-729-900-61	TRANSISTOR DTA114ES	
	Q154	8-729-900-61	TRANSISTOR DTA114ES	
	Q155	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	Q158	8-729-901-59	TRANSISTOR BF199	
	Q402	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	Q403	8-729-173-38	TRANSISTOR 2SA733-K	
	Q404	8-729-173-38	TRANSISTOR 2SA733-K	
	Q405	8-729-173-38	TRANSISTOR 2SA733-K	
	Q406	8-729-900-80	TRANSISTOR DTC114ES	
	Q501	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	Q551	8-729-173-38	TRANSISTOR 2SA733-K	
	Q552	8-729-900-36	TRANSISTOR DTC124ES	
	Q601	8-729-906-74	TRANSISTOR BC637-16	
	Q801	8-729-119-80	TRANSISTOR 2SC2688-LK	
	Q802	8-729-926-44	TRANSISTOR BU506DF-S	
		*4-389-343-01	SPRING; Q802	
	Q804	8-729-119-78	TRANSISTOR 2SC2785-HFE	
	<RESISTOR>			
	RO01	1-249-438-11	CARBON 56K 5% 1/4W	

# D

REF.NO.	PART NO.	DESCRIPTION	REMARK	REF.NO.	PART NO.	DESCRIPTION	REMARK
R002	1-249-440-11	CARBON	82K 5% 1/4W	R157	1-249-421-11	CARBON	2.2K 5% 1/4W
R004	1-249-439-11	CARBON	68K 5% 1/4W	R158	1-249-421-11	CARBON	2.2K 5% 1/4W
R005	1-249-413-11	CARBON	470 5% 1/4W	R172	1-249-422-11	CARBON	2.7K 5% 1/4W
R006	1-249-441-11	CARBON	100K 5% 1/4W	R173	1-249-429-11	CARBON	10K 5% 1/4W
R008	1-249-429-11	CARBON	10K 5% 1/4W	R180	1-249-419-11	CARBON	1.5K 5% 1/4W
R009	1-249-429-11	CARBON	10K 5% 1/4W	R185	1-249-439-11	CARBON	68K 5% 1/4W
R010	1-249-433-11	CARBON	22K 5% 1/4W	R186	1-249-441-11	CARBON	100K 5% 1/4W
R011	1-249-433-11	CARBON	22K 5% 1/4W	R201	1-249-387-11	CARBON	3.3 5% 1/4W
R012	1-249-433-11	CARBON	22K 5% 1/4W	R202	1-247-887-00	CARBON	220K 5% 1/4W
R013	1-249-433-11	CARBON	22K 5% 1/4W	R203	1-249-411-11	CARBON	330 5% 1/4W
R014	1-215-900-11	METAL OXIDE	22K 5% 2W	R204	1-247-739-11	CARBON	100 5% 1/2W
R015	1-249-421-11	CARBON	2.2K 5% 1/4W	R401	1-247-804-11	CARBON	75 5% 1/4W
R016	1-249-433-11	CARBON	22K 5% 1/4W	R402	1-247-804-11	CARBON	75 5% 1/4W
R017	1-249-407-11	CARBON	150 5% 1/4W	R403	1-247-804-11	CARBON	75 5% 1/4W
R018	1-249-417-11	CARBON	1K 5% 1/4W	R404	1-247-804-11	CARBON	75 5% 1/4W
R019	1-249-413-11	CARBON	470 5% 1/4W	R405	1-249-411-11	CARBON	330 5% 1/4W
R020	1-249-413-11	CARBON	470 5% 1/4W	R406	1-249-411-11	CARBON	330 5% 1/4W
R021	1-249-413-11	CARBON	470 5% 1/4W	R407	1-249-411-11	CARBON	330 5% 1/4W
R022	1-249-411-11	CARBON	330 5% 1/4W	R408	1-249-431-11	CARBON	15K 5% 1/4W
R023	1-249-416-11	CARBON	820 5% 1/4W	R409	1-249-431-11	CARBON	15K 5% 1/4W
R025	1-249-417-11	CARBON	1K 5% 1/4W	R410	1-249-409-11	CARBON	220 5% 1/4W
R029	1-249-429-11	CARBON	10K 5% 1/4W	R411	1-249-409-11	CARBON	220 5% 1/4W
R030	1-249-429-11	CARBON	10K 5% 1/4W	R412	1-249-409-11	CARBON	220 5% 1/4W
R035	1-249-431-11	CARBON	15K 5% 1/4W	R413	1-249-425-11	CARBON	4.7K 5% 1/4W
R037	1-249-429-11	CARBON	10K 5% 1/4W	R414	1-249-433-11	CARBON	22K 5% 1/4W
R038	1-249-429-11	CARBON	10K 5% 1/4W	R415	1-215-858-00	METAL OXIDE	15 5% 1W
R039	1-249-417-11	CARBON	1K 5% 1/4W				(KV-#2131D ONLY)
R040	1-249-430-11	CARBON	12K 5% 1/4W	R416	1-247-804-11	CARBON	75 5% 1/4W
R042	1-249-433-11	CARBON	22K 5% 1/4W	R418	1-249-417-11	CARBON	1K 5% 1/4W
R043	1-249-429-11	CARBON	10K 5% 1/4W	R419	1-249-425-11	CARBON	4.7K 5% 1/4W
R044	1-249-433-11	CARBON	22K 5% 1/4W	R420	1-249-413-11	CARBON	470 5% 1/4W
R046	1-249-425-11	CARBON	4.7K 5% 1/4W	R421	1-249-409-11	CARBON	220 5% 1/4W
R051	1-249-427-11	CARBON	6.8K 5% 1/4W	R422	1-249-404-00	CARBON	82 5% 1/4W
R052	1-249-413-11	CARBON	470 5% 1/4W	R423	1-249-438-11	CARBON	56K 5% 1/4W
R055	1-249-413-11	CARBON	470 5% 1/4W	R424	1-249-437-11	CARBON	47K 5% 1/4W
R056	1-249-423-11	CARBON	3.3K 5% 1/4W	R425	1-249-437-11	CARBON	47K 5% 1/4W
R058	1-249-429-11	CARBON	10K 5% 1/4W				(KV-#2 130D ONLY)
R059	1-249-426-11	CARBON	5.6K 5% 1/4W	R426	1-249-405-11	CARBON	100 5% 1/4W
R060	1-249-417-11	CARBON	1K 5% 1/4W	R427	1-247-804-11	CARBON	75 5% 1/4W
R061	1-249-413-11	CARBON	470 5% 1/4W	R428	1-249-432-11	CARBON	18K 5% 1/4W
R063	1-249-422-11	CARBON	2.7K 5% 1/4W	R429	1-249-409-11	CARBON	220 5% 1/4W
R064	1-249-417-11	CARBON	1K 5% 1/4W	R430	1-249-437-11	CARBON	47K 5% 1/4W
R065	1-249-433-11	CARBON	22K 5% 1/4W				(KV-#2 130D ONLY)
R066	1-249-425-11	CARBON	4.7K 5% 1/4W	R431	1-249-441-11	CARBON	100K 5% 1/4W
R070	1-249-429-11	CARBON	10K 5% 1/4W	R432	1-249-437-11	CARBON	47K 5% 1/4W
R071	1-249-413-11	CARBON	470 5% 1/4W				(KV-#2 130D ONLY)
R072	1-249-441-11	CARBON	100K 5% 1/4W	R434	1-249-415-11	CARBON	680 5% 1/4W
R073	1-249-435-11	CARBON	33K 5% 1/4W	R435	1-249-440-11	CARBON	82K 5% 1/4W
R074	1-249-429-11	CARBON	10K 5% 1/4W	R436	1-249-409-11	CARBON	220 5% 1/4W
R075	1-249-431-11	CARBON	15K 5% 1/4W	R437	1-249-429-11	CARBON	10K 5% 1/4W
R076	1-249-423-11	CARBON	3.3K 5% 1/4W	R441	1-216-375-00	METAL OXIDE	3.3 5% 2W F
R077	1-249-435-11	CARBON	33K 5% 1/4W				(KV-#2 131D ONLY)
R078	1-249-427-11	CARBON	6.8K 5% 1/4W	R444	1-249-411-11	CARBON	330 5% 1/4W
R079	1-249-429-11	CARBON	10K 5% 1/4W	R445	1-216-452-11	METAL OXIDE	180 5% 2W F
R080	1-249-429-11	CARBON	10K 5% 1/4W				(KV-#2 130D ONLY)
R084	1-249-424-11	CARBON	3.9K 5% 1/4W	R501	1-249-425-11	CARBON	4.7K 5% 1/4W
R085	1-247-881-00	CARBON	120K 5% 1/4W	R502	1-247-744-11	CARBON	270 5% 1/2W
R086	1-249-429-11	CARBON	10K 5% 1/4W	R503	1-215-867-00	METAL OXIDE	470 5% 1W
R151	1-249-405-11	CARBON	100 5% 1/4W				
R152	1-249-429-11	CARBON	10K 5% 1/4W				
R153	1-249-433-11	CARBON	22K 5% 1/4W				
R154	1-249-429-11	CARBON	10K 5% 1/4W				
R155	1-249-418-11	CARBON	1.2K 5% 1/4W				
R156	1-247-891-00	CARBON	330K 5% 1/4W				

The components identified by shading and mark  $\Delta$  are critical for safety.  
Replace only with part number specified.

D

REF. NO.	PART NO.	DESCRIPTION	REMARK	REF. NO.	PART NO.	DESCRIPTION	REMARK
R504	1-247-895-00	CARBON	470K 5% 1/4W	R857	1-247-883-00	CARBON	150K 5% 1/4W
R505	1-249-429-11	CARBON	10K 5% 1/4W	R870	1-216-393-00	METAL OXIDE	2.2 5% 3W F
R506	1-249-424-11	CARBON	3.9K 5% 1/4W			<VARIABLE RESISTOR>	
R507	1-249-435-11	CARBON	33K 5% 1/4W				
R508	1-216-347-11	METAL OXIDE	0.68 5% 1W F	RV401	1-238-163-11	RES, VAR, CARBON	10K
R509	1-247-903-00	CARBON	1M 5% 1/4W	RV501	1-238-016-11	RES, ADJ, CARBON	10K
R510	1-249-439-11	CARBON	68K 5% 1/4W	RV552	1-238-020-11	RES, ADJ, CARBON	100K
R511	1-247-893-11	CARBON	390K 5% 1/4W	RV553	1-238-016-11	RES, ADJ, CARBON	10K
R512	1-216-456-00	METAL OXIDE	820 5% 2W F	RV801	1-223-102-00	RES, ADJ, WIREWOUND	120
R513	1-249-424-11	CARBON	3.9K 5% 1/4W			<SWITCH>	
R551	1-216-427-00	METAL OXIDE	120 5% 1W F	S001	1-571-532-21	SWITCH, TACTIL	
R552	1-249-419-11	CARBON	1.5K 5% 1/4W	S002	1-571-532-21	SWITCH, TACTIL	
R553	1-249-426-11	CARBON	5.6K 5% 1/4W	S003	1-571-532-21	SWITCH, TACTIL	
R554	1-249-404-00	CARBON	82 5% 1/4W	S004	1-571-532-21	SWITCH, TACTIL	
R555	1-249-423-11	CARBON	3.3K 5% 1/4W	S005	1-571-532-21	SWITCH, TACTIL	
R556	1-249-418-11	CARBON	1.2K 5% 1/4W	S006	1-571-532-21	SWITCH, TACTIL	
R558	1-249-417-11	CARBON	1K 5% 1/4W	S007	1-571-532-21	SWITCH, TACTIL	
R559	1-249-433-11	METAL	22K 5% 1/4W	S008	1-571-532-21	SWITCH, TACTIL	
R560	1-247-886-11	METAL	200K 5% 1/4W	S009	1-571-532-21	SWITCH, TACTIL	
R561	1-249-412-11	CARBON	390 5% 1/4W			<SPARK GAP>	
R562	1-249-428-11	METAL	8.2K 5% 1/4W	SG801	1-519-422-11	GAP, SPARK	
R563	1-249-409-11	CARBON	220 5% 1/4W			<TRANSFORMER>	
R564	1-249-410-11	CARBON	270 5% 1/4W	T601 $\Delta$	1-449-275-12	S.R.T	
R565	1-215-454-00	METAL	24K 1% 1/6W	T603 $\Delta$	1-424-077-11	TRANSFORMER, LINE FILTER	
R569	1-249-431-11	CARBON	15K 5% 1/4W	T604 $\Delta$	1-424-078-11	TRANSFORMER, TRIGGER PULSE	
R571	1-249-436-11	CARBON	39K 5% 1/4W	T605 $\Delta$	1-421-862-11	LFT	
R572	1-249-405-11	CARBON	100 5% 1/4W	T801	1-437-090-00	HDT	
R573	1-249-433-11	CARBON	22K 5% 1/4W				
R574	1-249-439-11	CARBON	68K 5% 1/4W	T851 $\Delta$	1-439-416-11	TRANSFORMER ASSY, FLYBACK (UX-1600)	
R575	1-249-421-11	CARBON	2.2K 5% 1/4W			<THERMISTOR>	
R576	1-249-432-11	CARBON	18K 5% 1/4W	TH601 $\Delta$	1-808-059-31	THERMISTOR, POSITIVE	
R577	1-249-405-11	CARBON	100 5% 1/4W			<TUNER>	
R601 $\Delta$	1-205-909-11	WIREWOUND	3.3 5% 10W F	TU101 $\Delta$	1-463-881-11	TUNER, ET (UV-617)	
R602	1-214-931-00	CARBON	560K 5% 1/2W			<IF BLOCK>	
R603	1-215-903-11	METAL OXIDE	68K 5% 2W	VIF101	1-464-960-21	IF BLOCK (IFG-389)	
R604	1-247-750-11	CARBON	680 5% 1/2W			*****	
R605 $\Delta$	1-218-265-91	METAL GLAZE	8.2M 5% 1W			MISCELLANEOUS	
R606	1-212-877-11	FUSIBLE	68 5% 1/4W			*****	
R608	1-215-884-11	METAL OXIDE	47 5% 2W	L901 $\Delta$	1-426-383-11	COIL, DEMAGNETIZATION	
R609	1-207-905-00	WIREWOUND	0.27 10% 2W	$\Delta$	1-451-295-11	DEFLECTION YOKE (Y21PFA2)	
R612	1-217-809-11	FUSIBLE	0.33 5% 1/4W		1-452-032-00	MAGNET, DISK; 10MM $\phi$	
R613	1-217-811-11	FUSIBLE	0.47 5% 1/4W		1-452-094-00	MAGNET, ROTATABLE DISK; 15MM $\phi$	
R615	1-249-399-11	CARBON	33 5% 1/4W		1-452-277-00	MAGNET, BMC	
R617	1-216-376-00	METAL OXIDE	3.9 5% 2W F	SP901	1-503-258-21	SPEAKER	
R619	1-249-430-11	CARBON	12K 5% 1/4W	$\Delta$	1-559-346-12	CORD, POWER (WITH CONNECTOR)	
R650	1-247-725-11	CARBON	10K 5% 1/4W	V901 $\Delta$	8-738-753-05	PICTURE TUBE (A51JXH60X)	
R651	1-247-725-11	CARBON	10K 5% 1/4W			*****	
R652	1-247-725-11	CARBON	10K 5% 1/4W				
R653	1-247-725-11	CARBON	10K 5% 1/4W				
R801	1-217-811-11	FUSIBLE	0.47 5% 1/4W				
R802	1-217-778-11	FUSIBLE	1K 5% 1W F				
R804	1-217-820-11	FUSIBLE	3.3K 5% 1/4W				
R805	1-249-399-11	CARBON	33 5% 1/4W				
R806	1-249-421-11	CARBON	2.2K 5% 1/4W				
R807	1-212-877-11	FUSIBLE	68 5% 1/4W				
R808	1-216-346-00	METAL OXIDE	0.56 5% 1W F				
R809	1-249-421-11	CARBON	2.2K 5% 1/4W				
R810	1-202-725-00	SOLID	3.3M 10% 1/2W				
R823	1-215-868-00	METAL OXIDE	680 5% 1W F				
R833	1-212-956-00	FUSIBLE	8.2 5% 1/2W F				
R852	1-216-431-11	METAL OXIDE	560 5% 1W				
R854	1-217-811-11	FUSIBLE	0.47 5% 1/4W				
R855	1-202-830-00	SOLID	10K 10% 1/2W				
R856	1-217-825-11	FUSIBLE	8.2K 5% 1/4W				



ACCESSORIES AND PACKING MATERIALS  
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PART NO. -----	DESCRIPTION -----	REMARK -----
4-200-324-31	MANUAL, INSTRUCTION	
*4-380-340-01	BAG, PROTECTION	
*4-385-902-01	INDIVIDUAL CARTON	
*4-387-961-01	CUSHION (UPPER) (ASSY)	
*4-387-962-01	CUSHION (LOWER) (ASSY)	

REMOTE COMMANDER

1-465-487-11	REMOTE COMMANDER (RM-657)
4-384-285-01	COVER, BATTERY (FOR RM-657)